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A DESCRIPTIVE AND HISTORICAL ACCOUNT.

COMPILED FOR THE MADRAS GOVERNMENT

BY

GEORGE T. WALCH, M.INST.C.E.,
CHIEF ENGINEER FOR IRRIGATION, MADRAS (RETIRED).

IN TWO VOLUMES.

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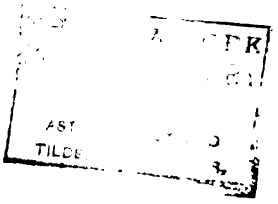

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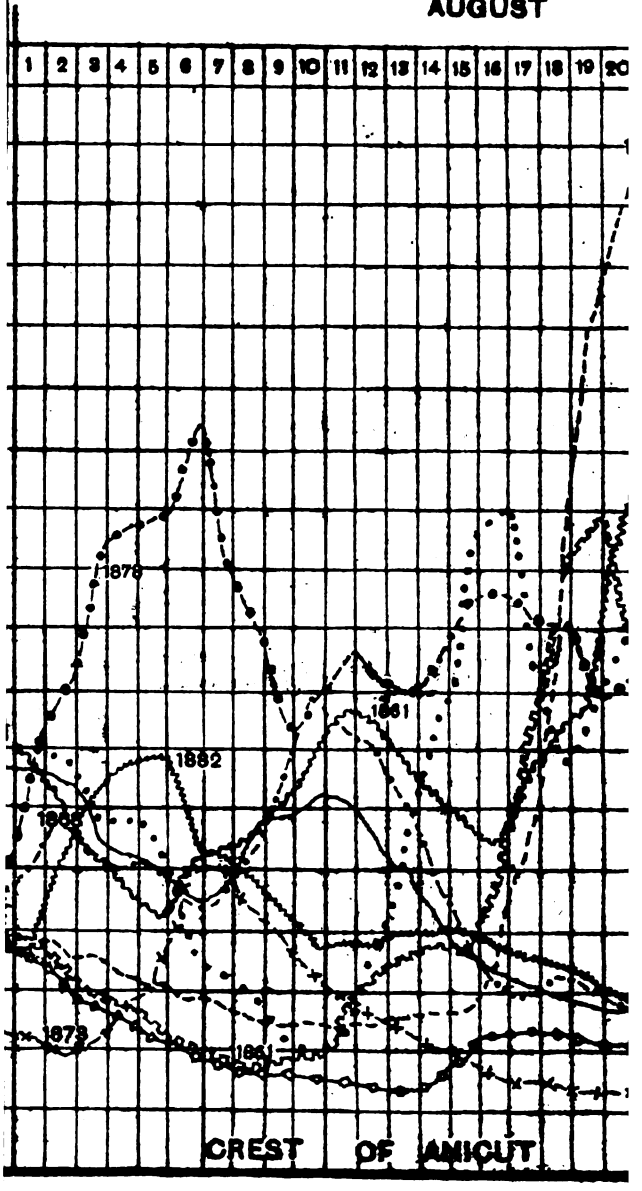

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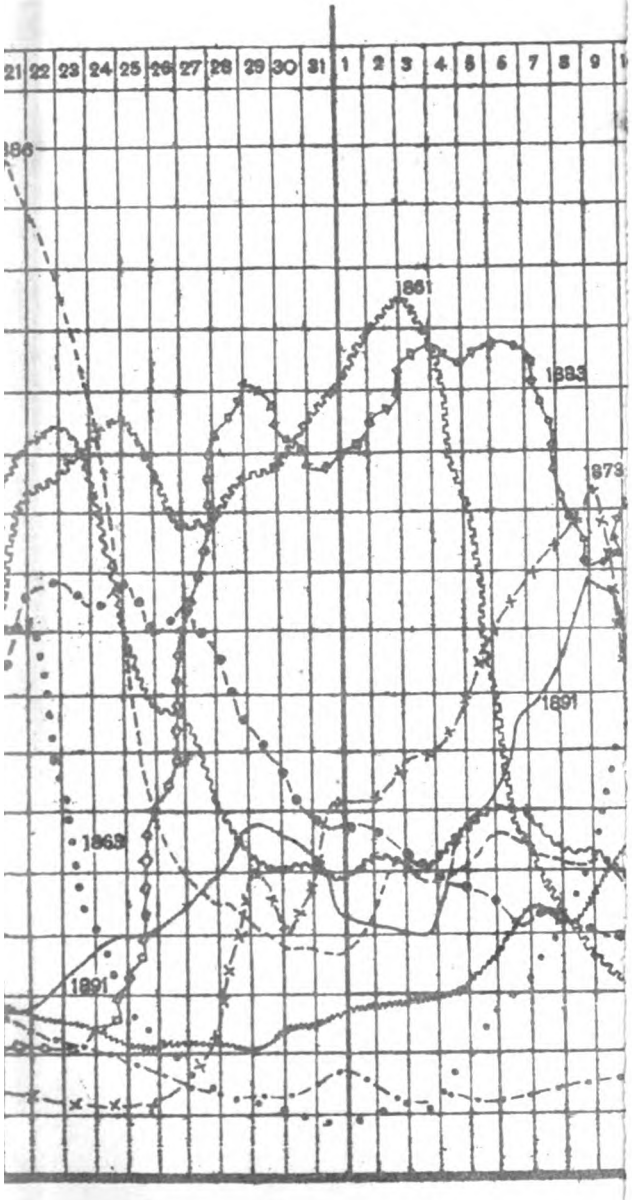

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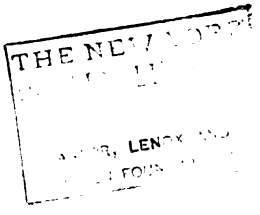

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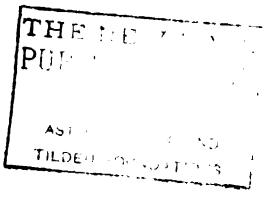

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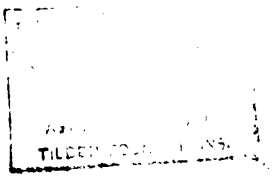

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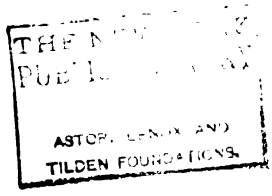
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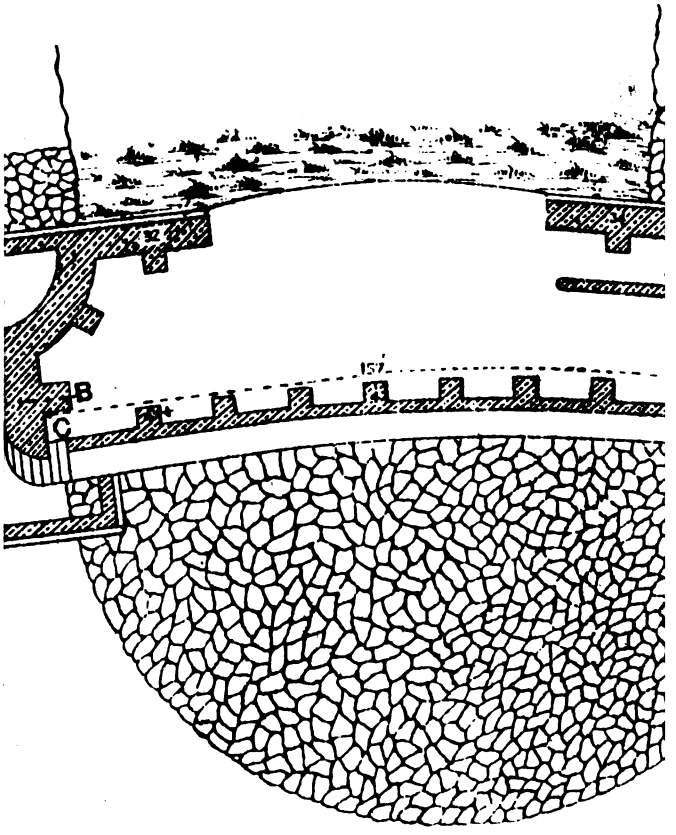

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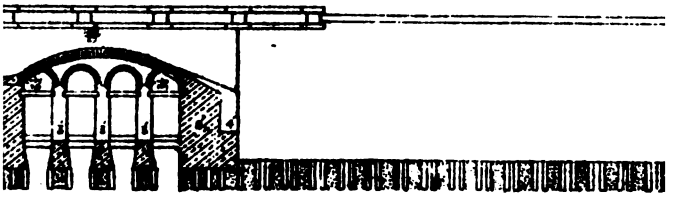

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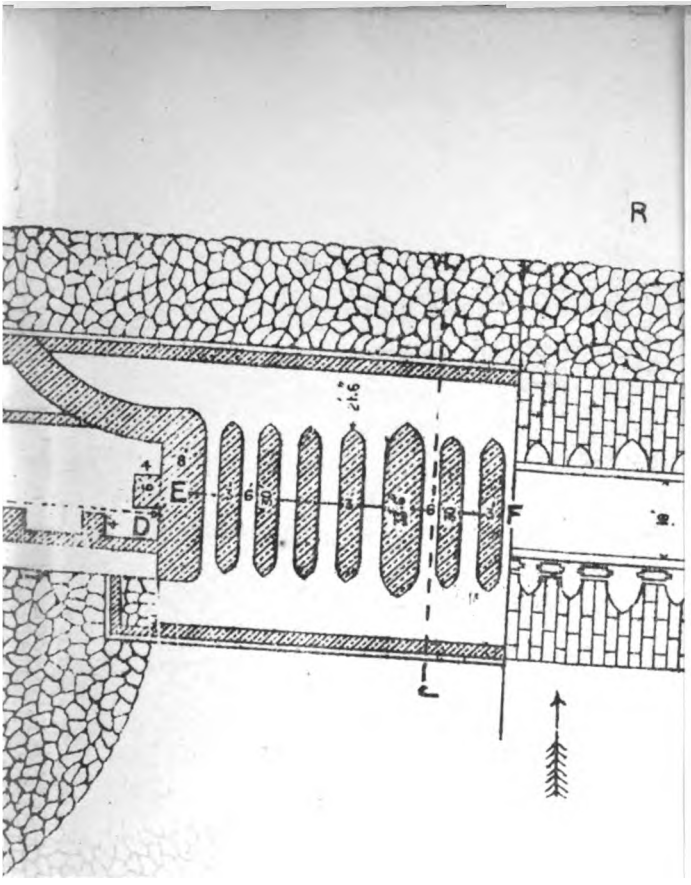

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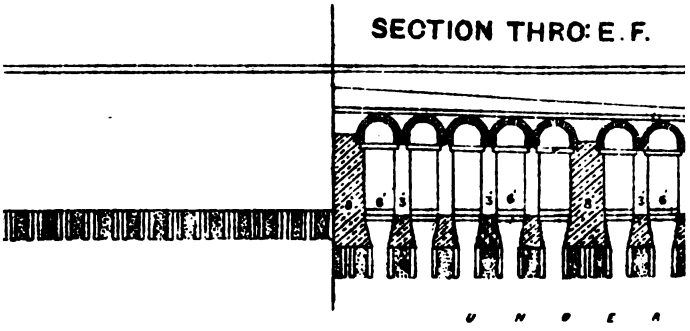

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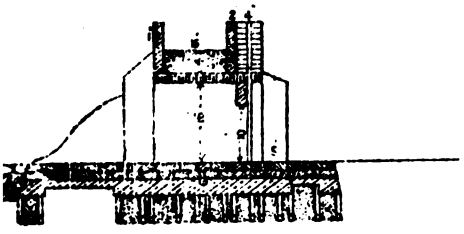

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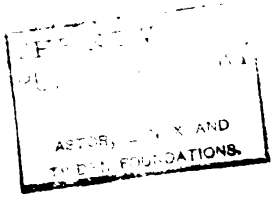

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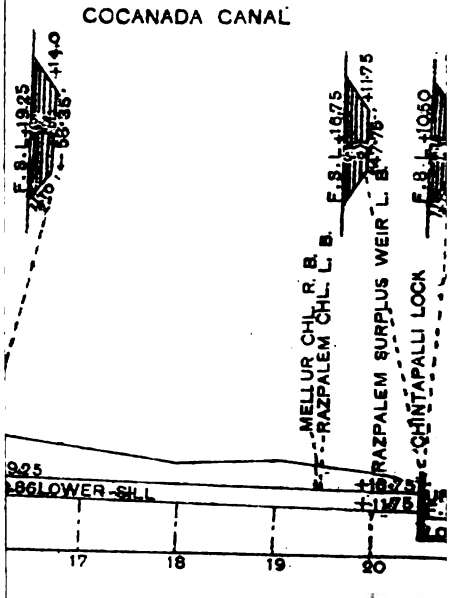

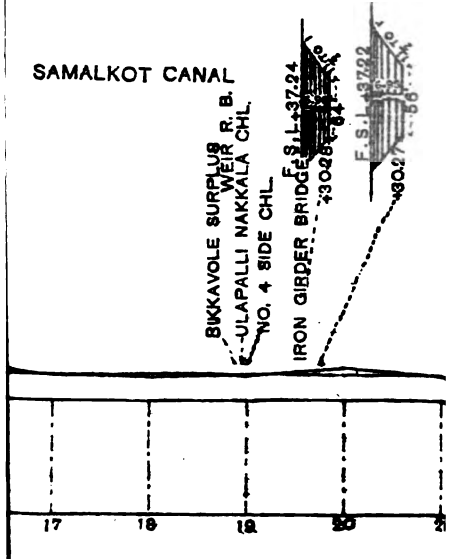

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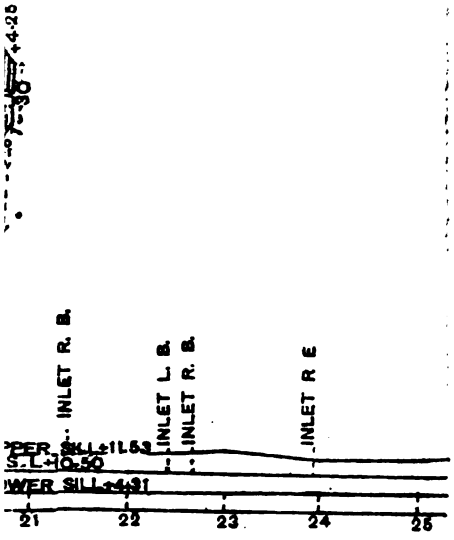

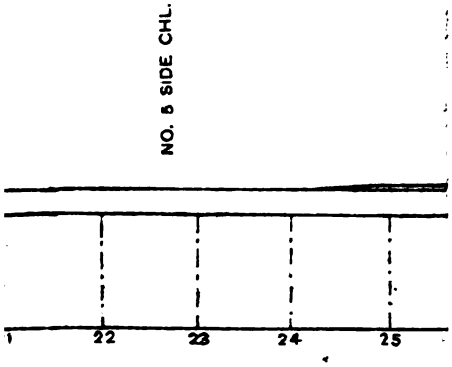

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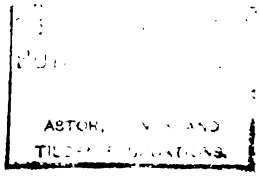

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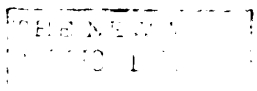

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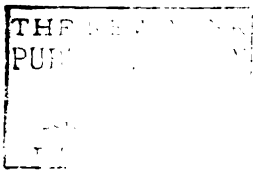

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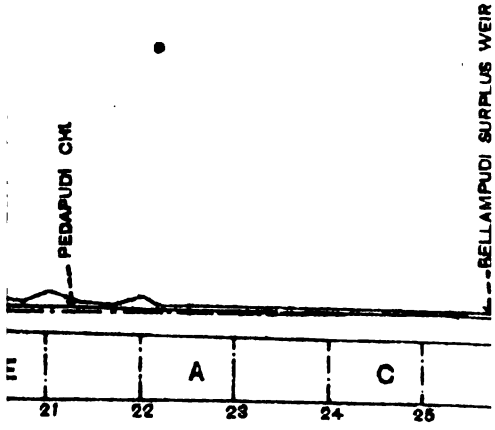

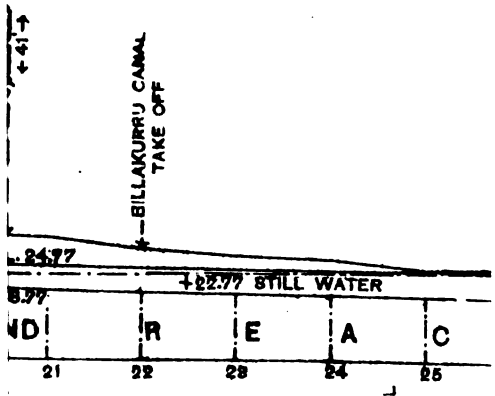

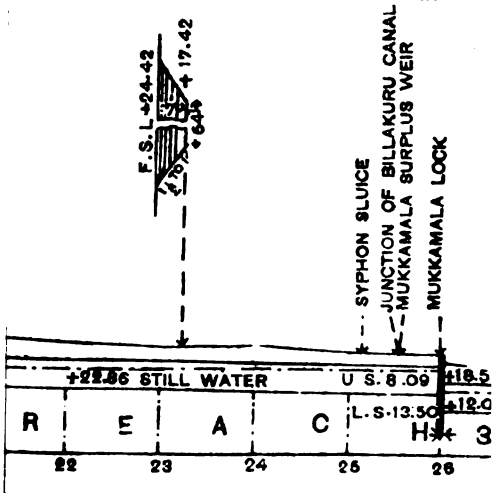

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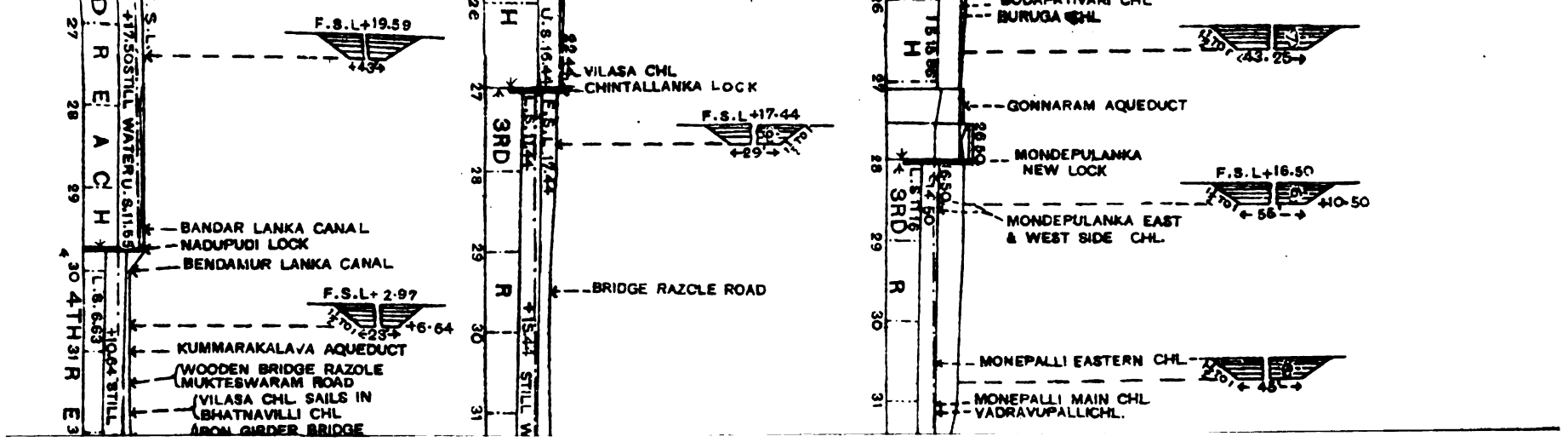

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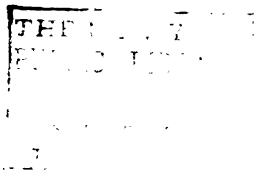

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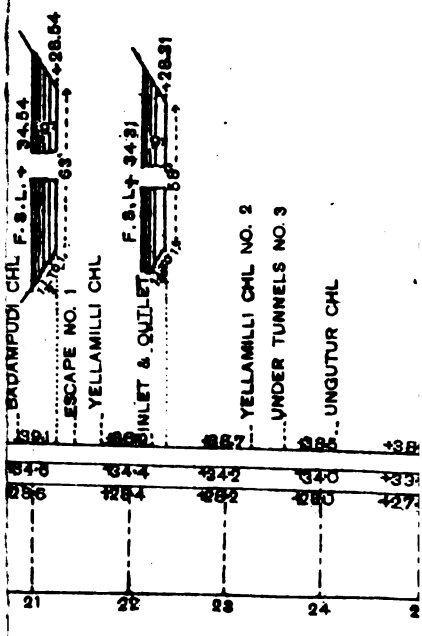

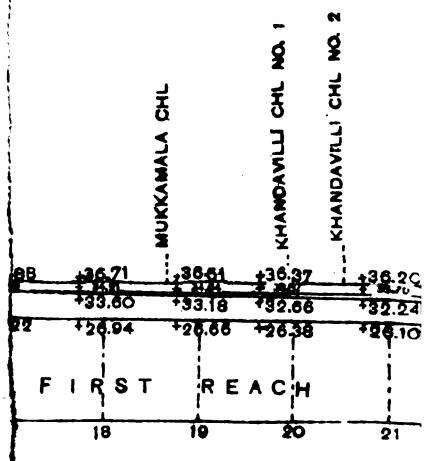

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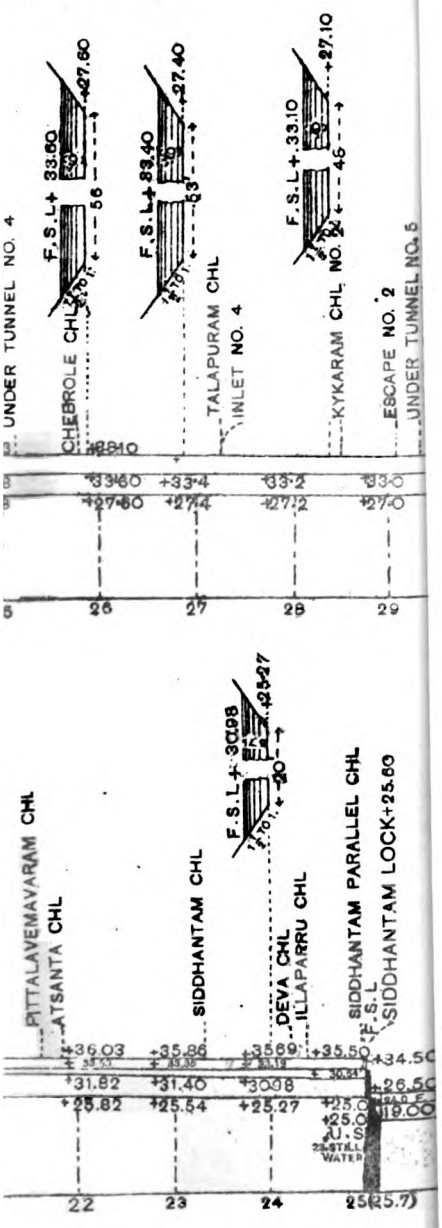

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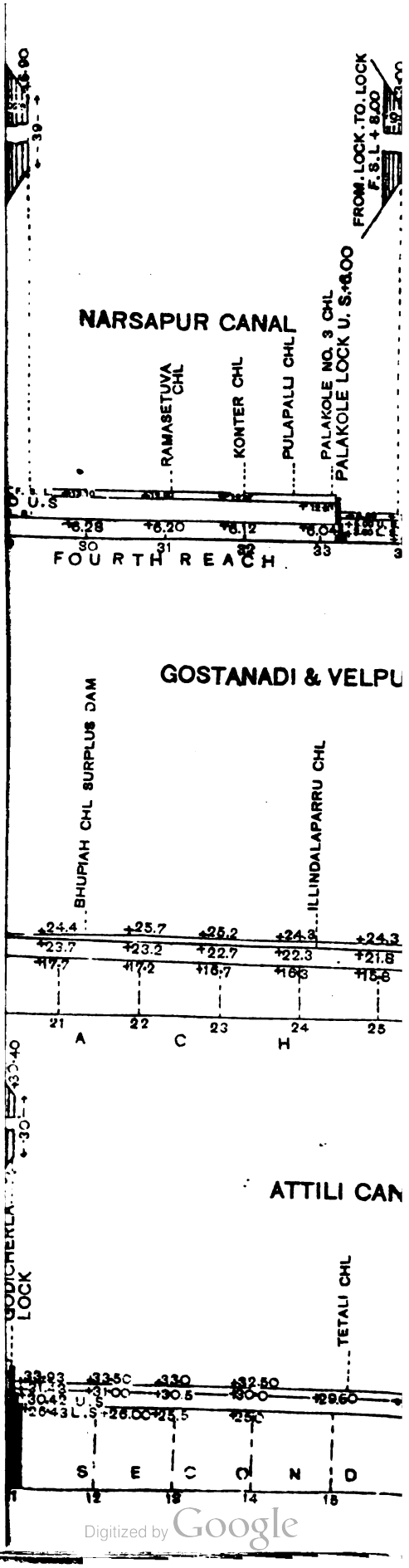

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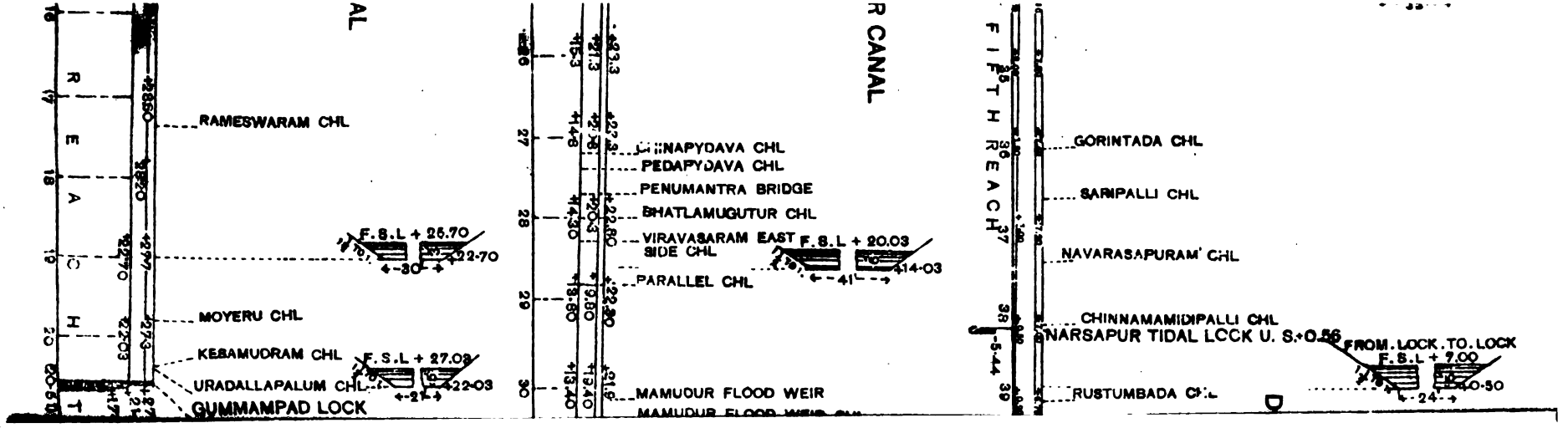

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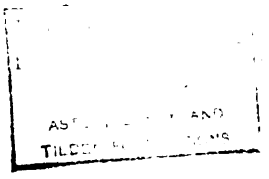

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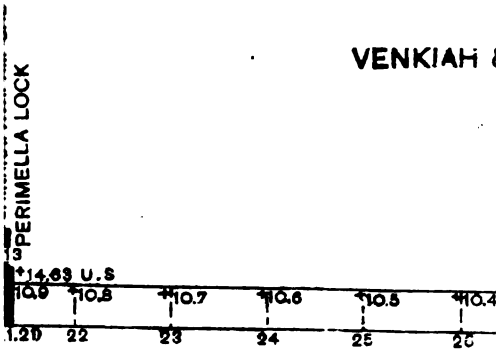

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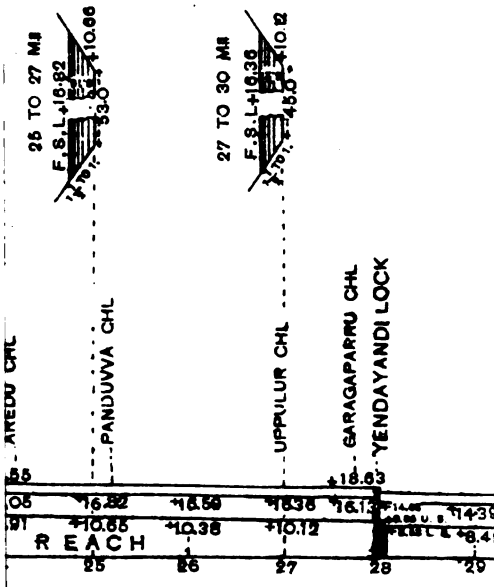

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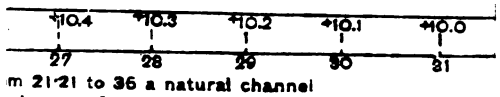

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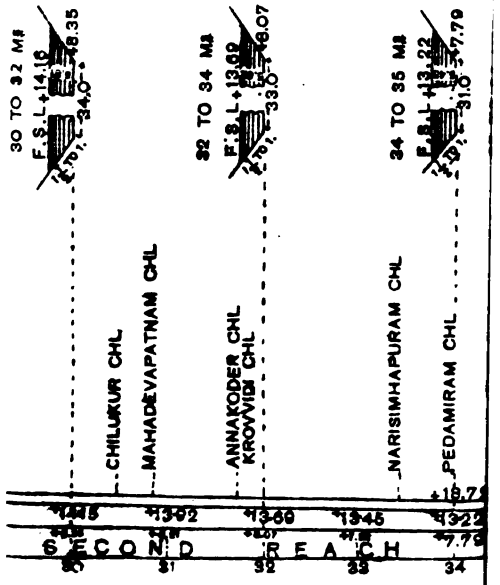

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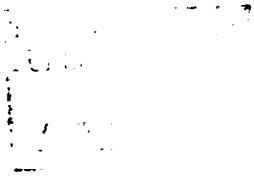

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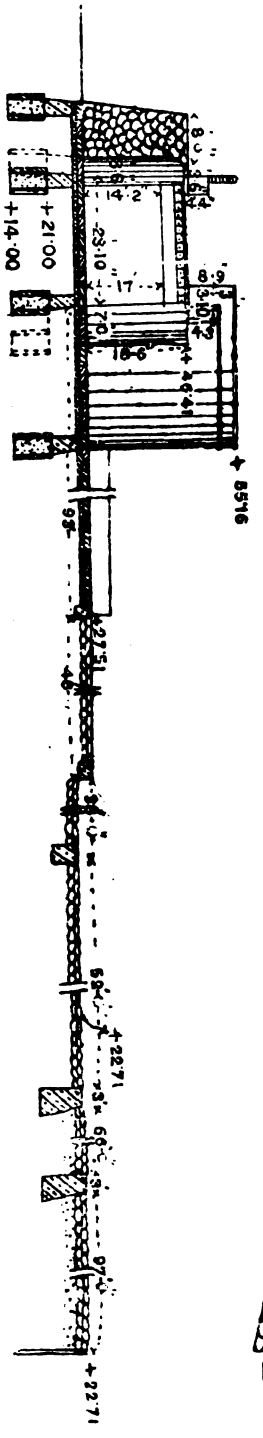
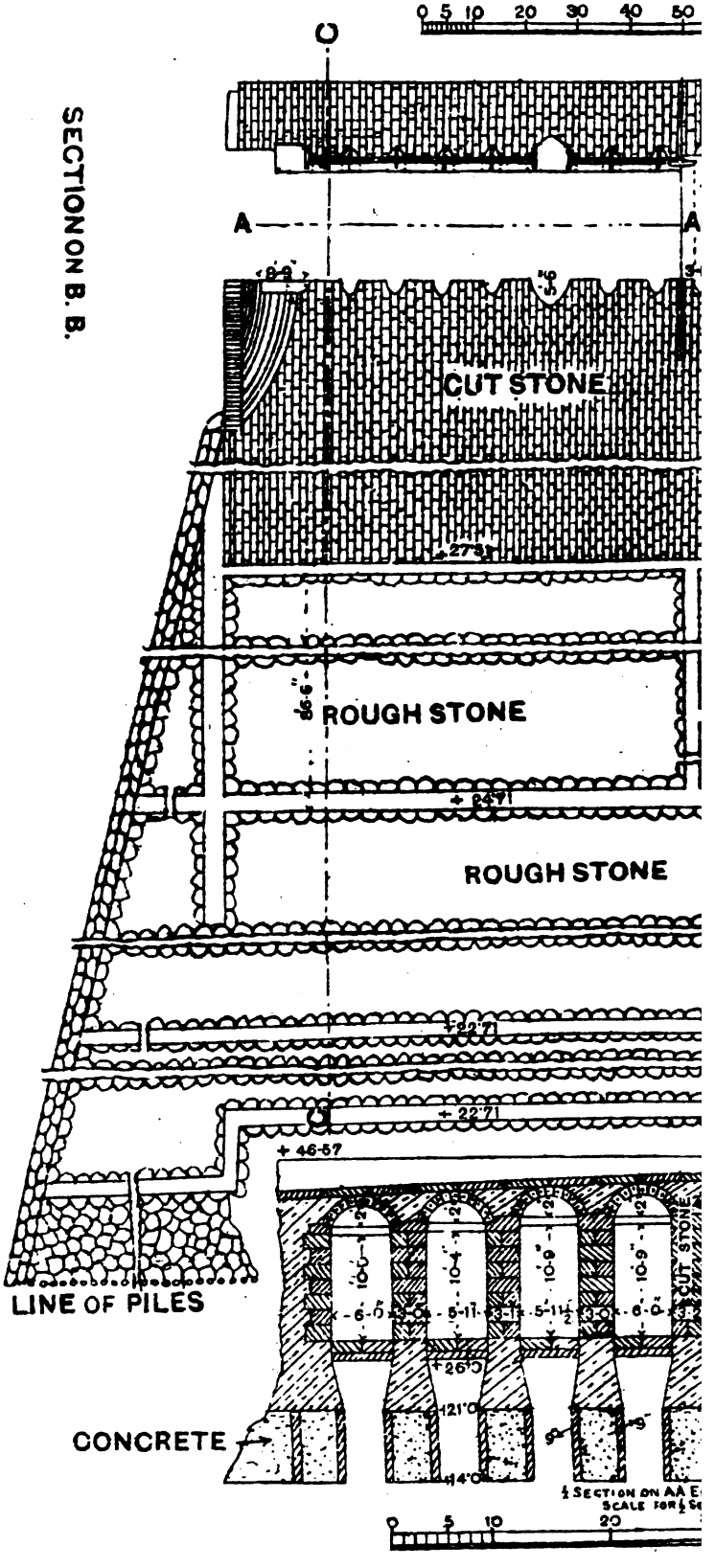
DOWLAISHWARAM

SCAL

0 5 10 20 30 40 50



SECTION ON B. B.



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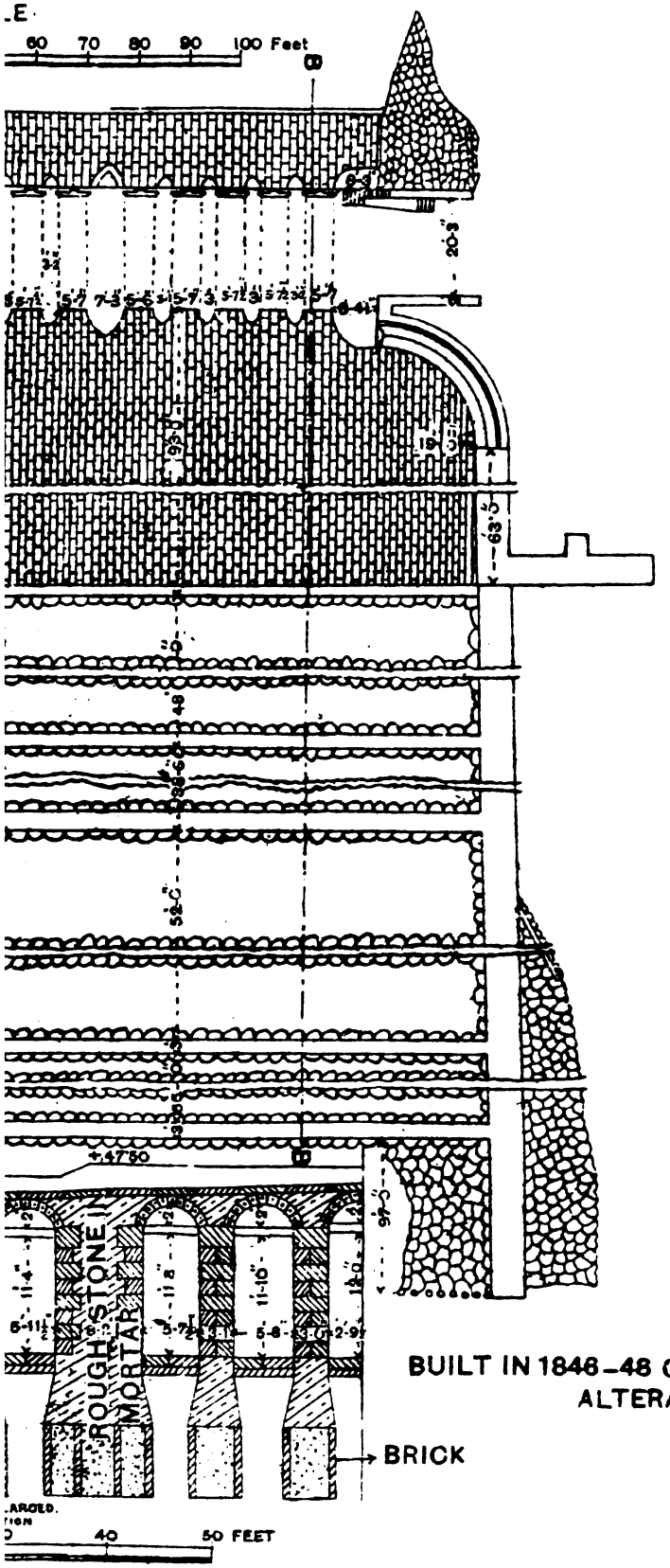
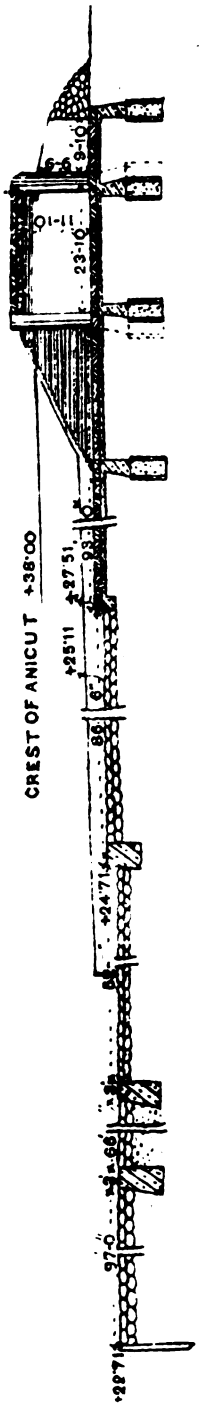
UNDER SLUICES.





BUILT IN 1846–48 (WITH SUBSEQUENT ALTERATIONS.)

PHOTO-ZINCO. SURVEY OFFICE. MADRAS
1896

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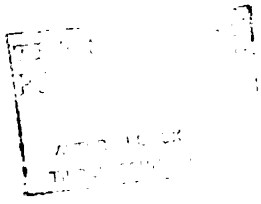

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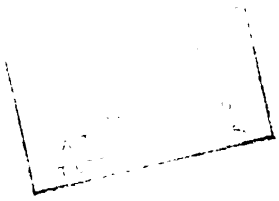

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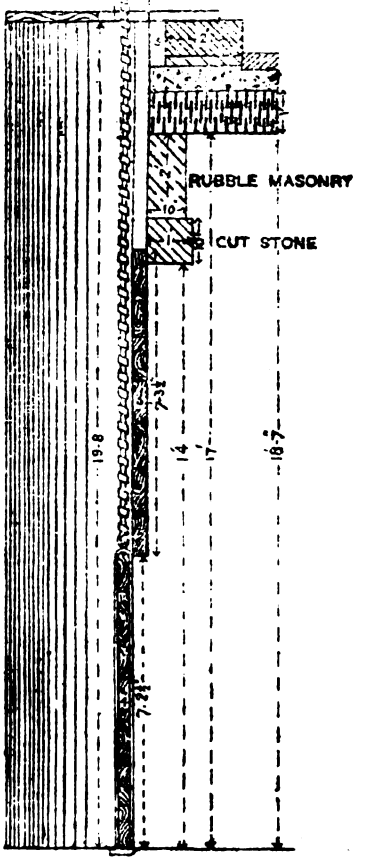
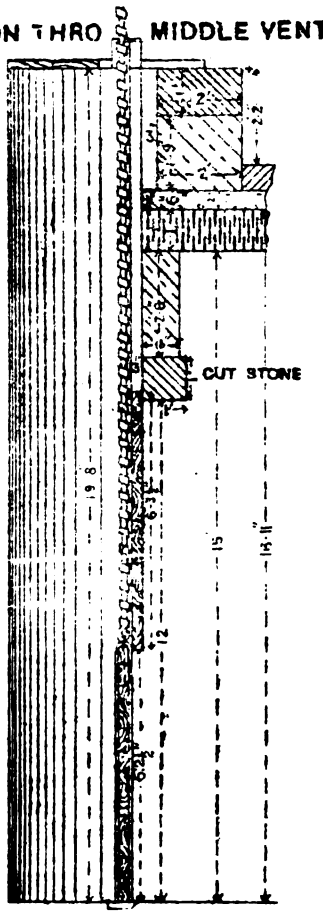
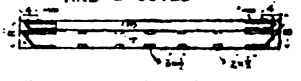
SECTION THRO: EASTERN VENTS



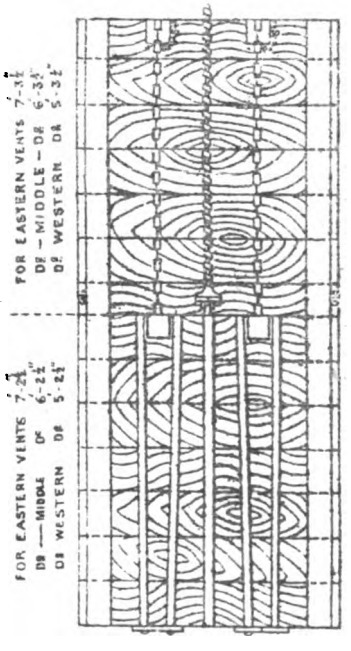
SECTION THRO MIDDLE VENTS



HORIZONTAL SECTION THRO: SHUTTERS AND GROOVES

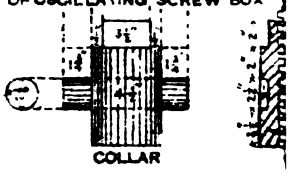


ELEVATION OF SHUTTERS



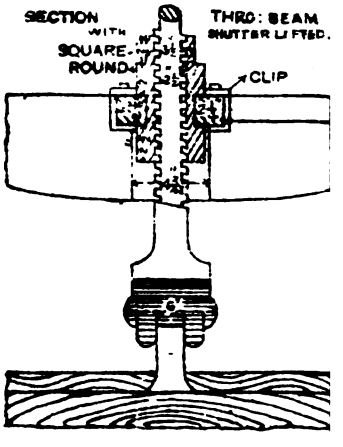
PLAN OF OSCILLATING SCREW B
TOP VIEW

ELEVATION OF OSCILLATING SCREW BOX



COLLAR

SECTION THRO: BEAM
WITH SHUTTER LIFTED.
SQUARE-
ROUND



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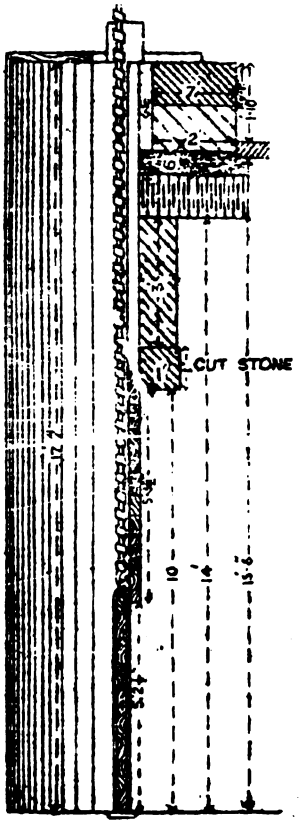
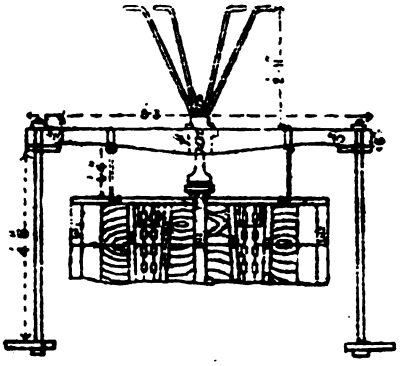
SECTION THRO: WESTERN VENTS



DETAILS OF SHUTTERS DOWLAISHWERAM UNDER SLUICE.

DESIGNED BY CAPTN R R.E. DRAKE-BROCKMAN R.E.

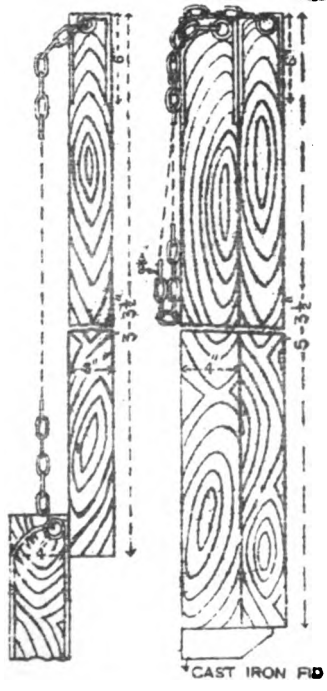
FRONT VIEW SHUTTER HOOKED UP.



IOX.

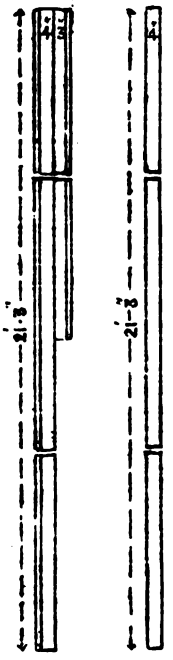
SECTION OF SHUTTER'S SHOWING CHAIN ATTACHMENT.

SHUTTER GOING DOWN. SHUTTER LIFTED.



GROOVES.
(CAST IRON)

FRONT VIEW. SIDE VIEW.



COLLAR

Photo-Zinco, Survey Office, Madras.
1896

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ASTOR, LENOX AND
TILDEN FOUNDATIONS.

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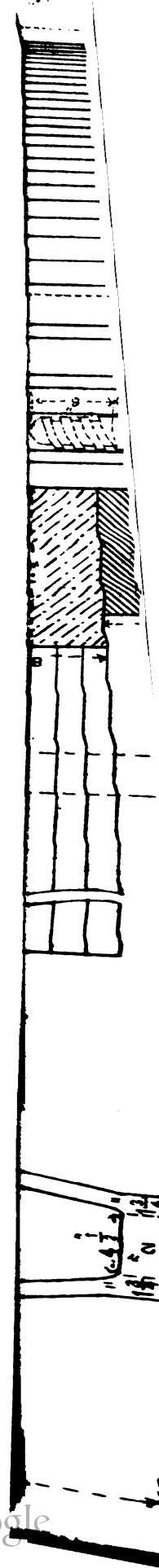

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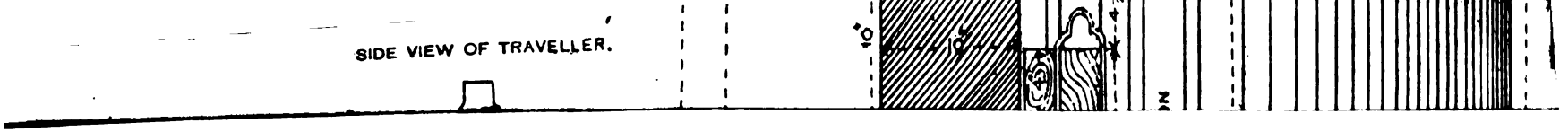

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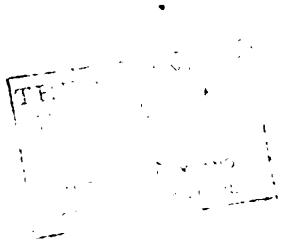

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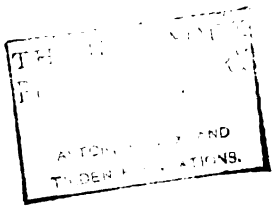

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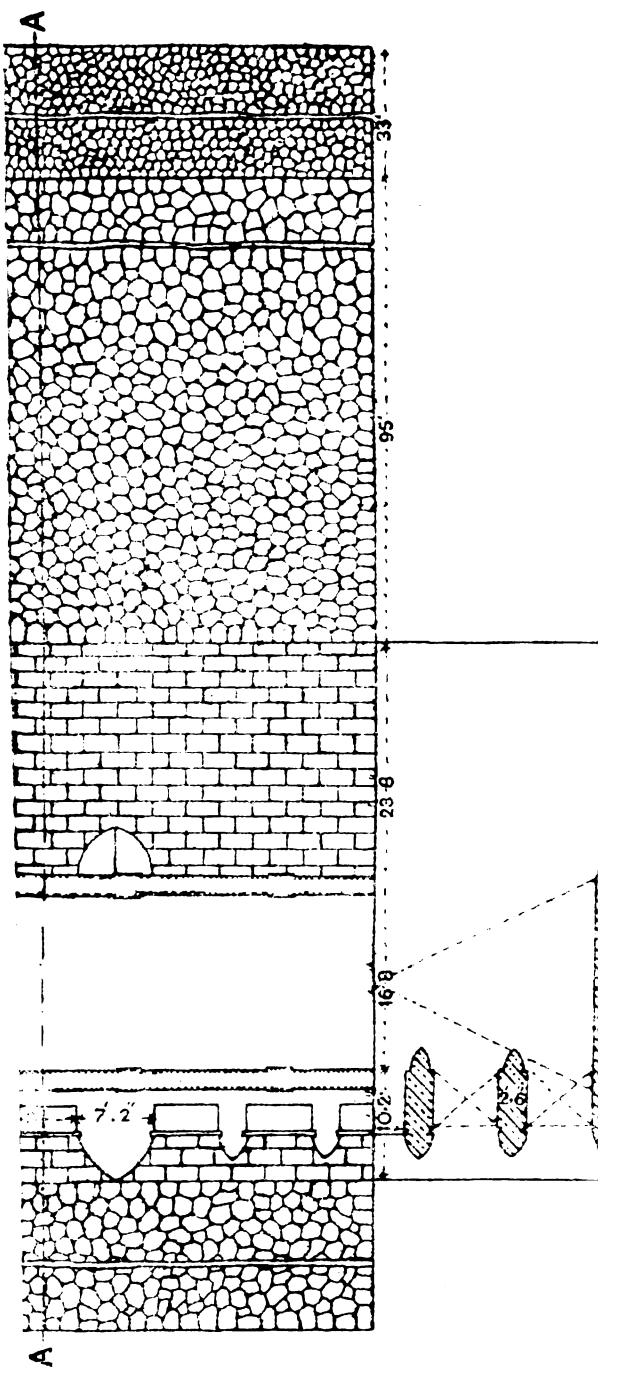

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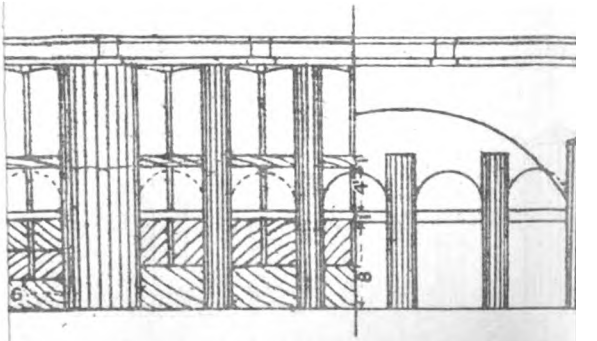

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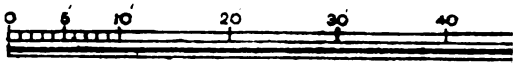
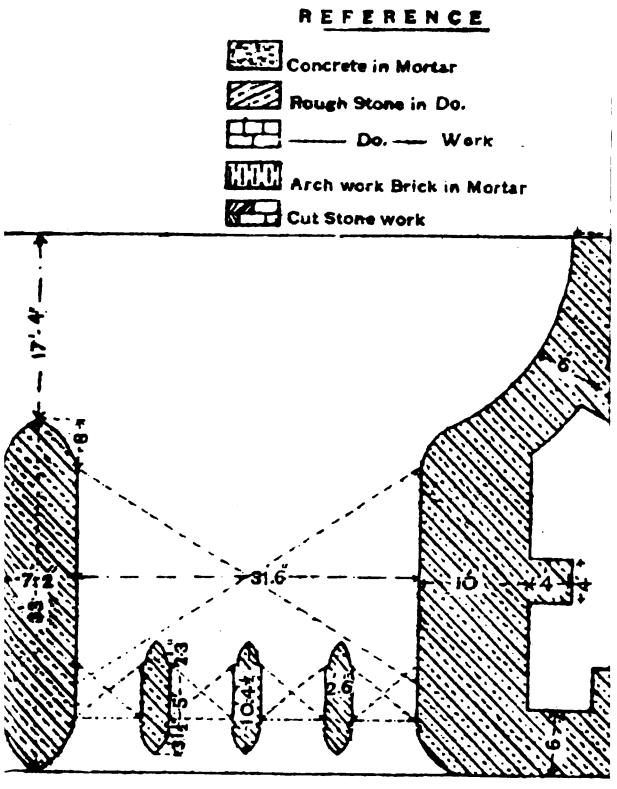
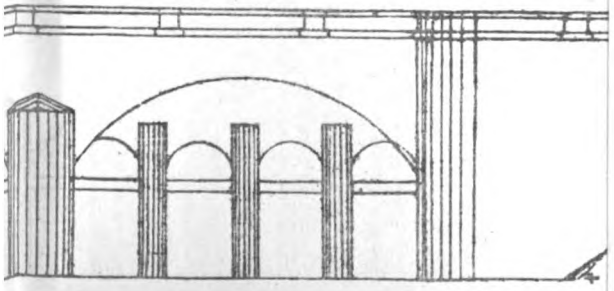
HEAD SLUICE
MAIN CANAL EASTERN DE
AT
DOWLAISHWERAM.

Scale





REAR ELEVATION



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THE NEW YORK
PUBLIC LIBRARY
ASTOR, LENOX AND
TILDEN FOUNDATIONS

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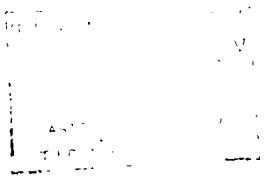

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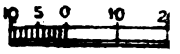
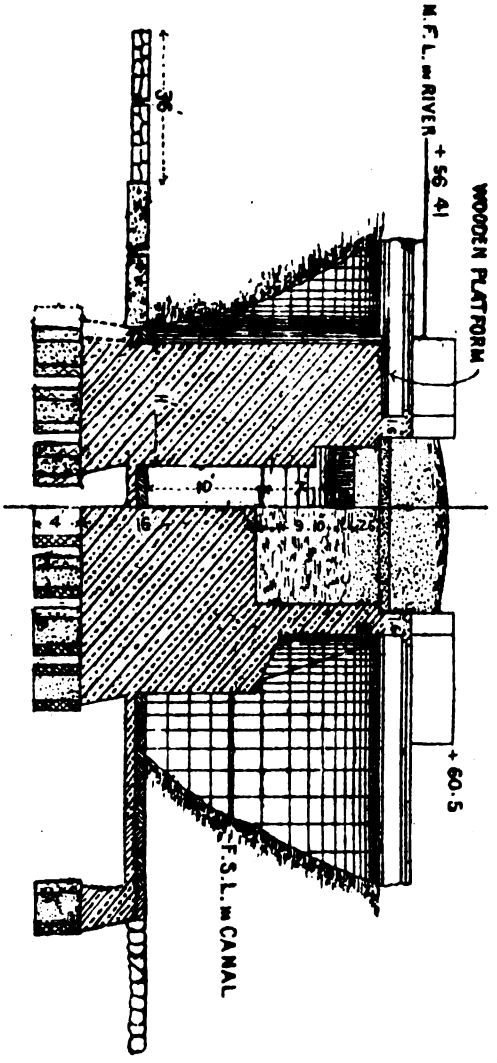
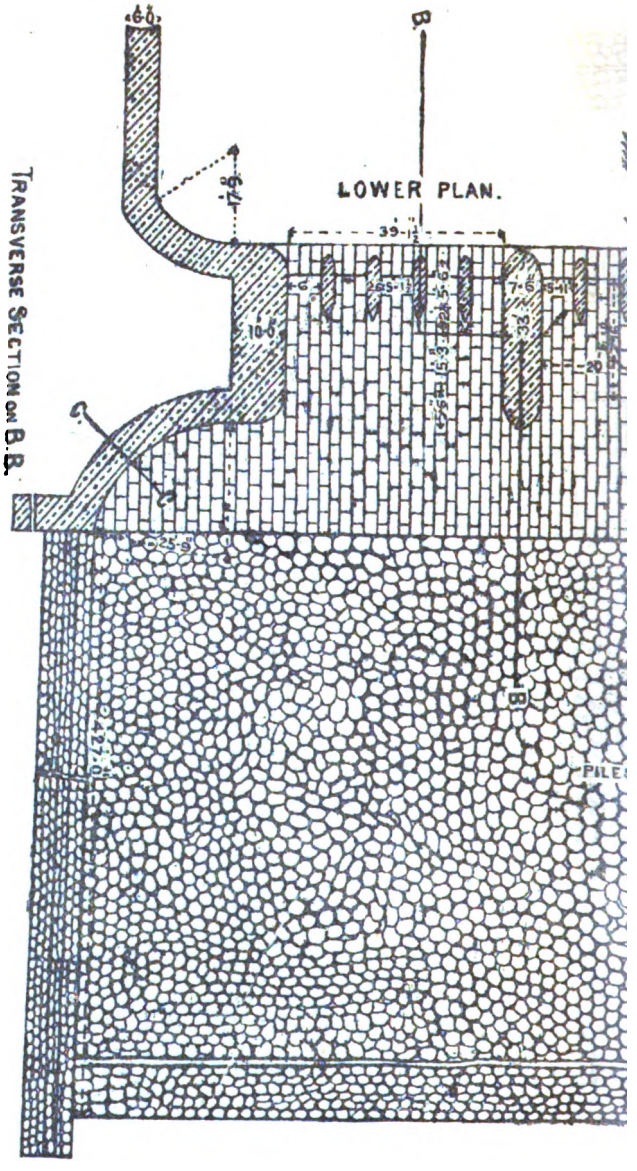
VIZESWARAM

WES





TRANSVERSE SECTION on B.B.



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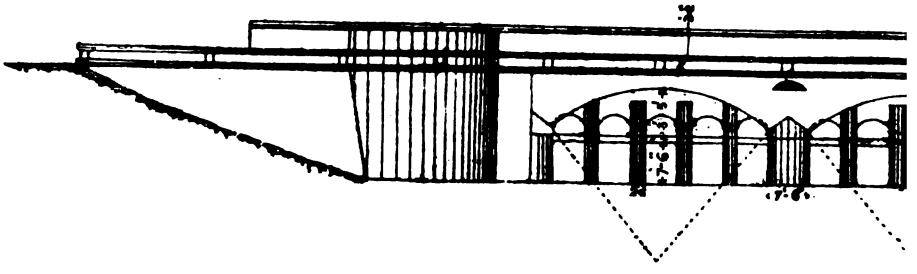

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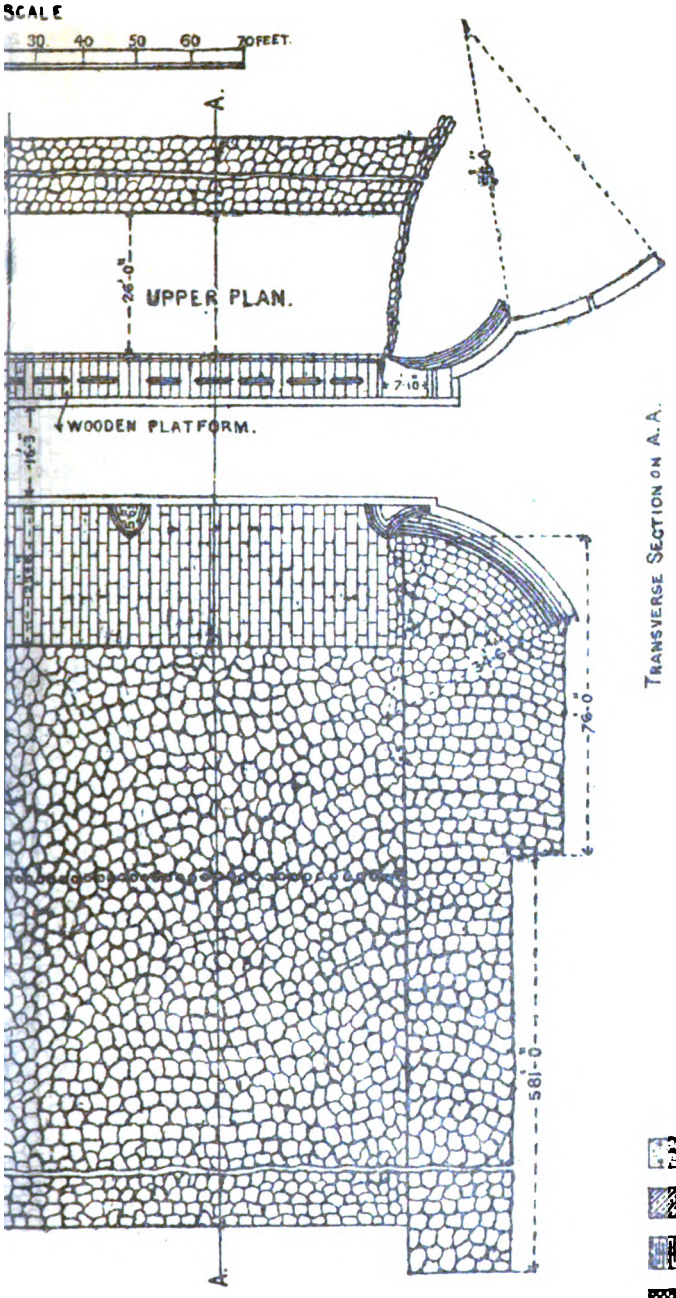
HEAD SLUICES.

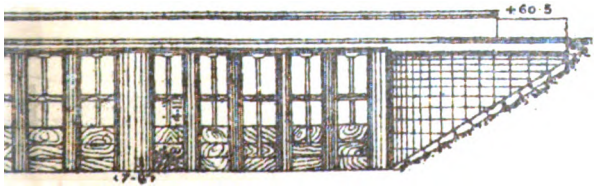
TERN DELTA

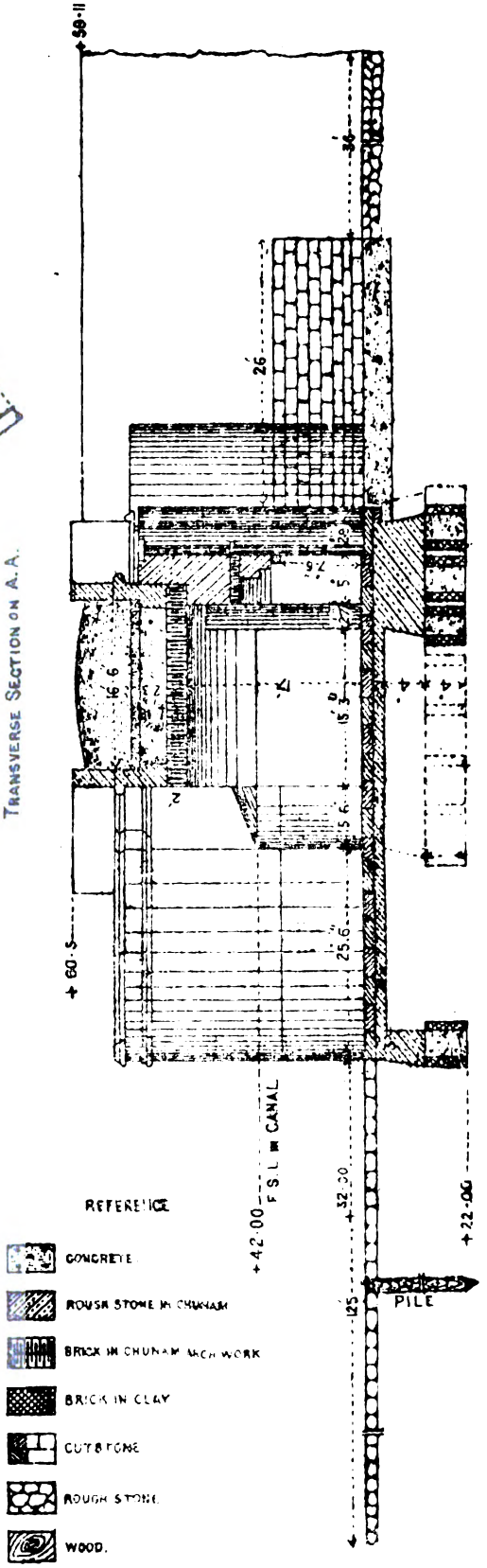
SCALE

30 40 50 60 70 FEET.



FRONT ELEVATION.





TRANSVERSE SECTION ON A.A.

REFERENCE

- CONCRETE
- ROUGH STONE IN CHUNAM
- BRICK IN CHUNAM MASONRY WORK
- BRICK IN CLAY
- CUT STONE
- ROUGH STONE
- WOOD.

PHOTO-ZINCO., SURVEY OFFICE, MADRAS.

1896

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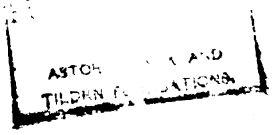

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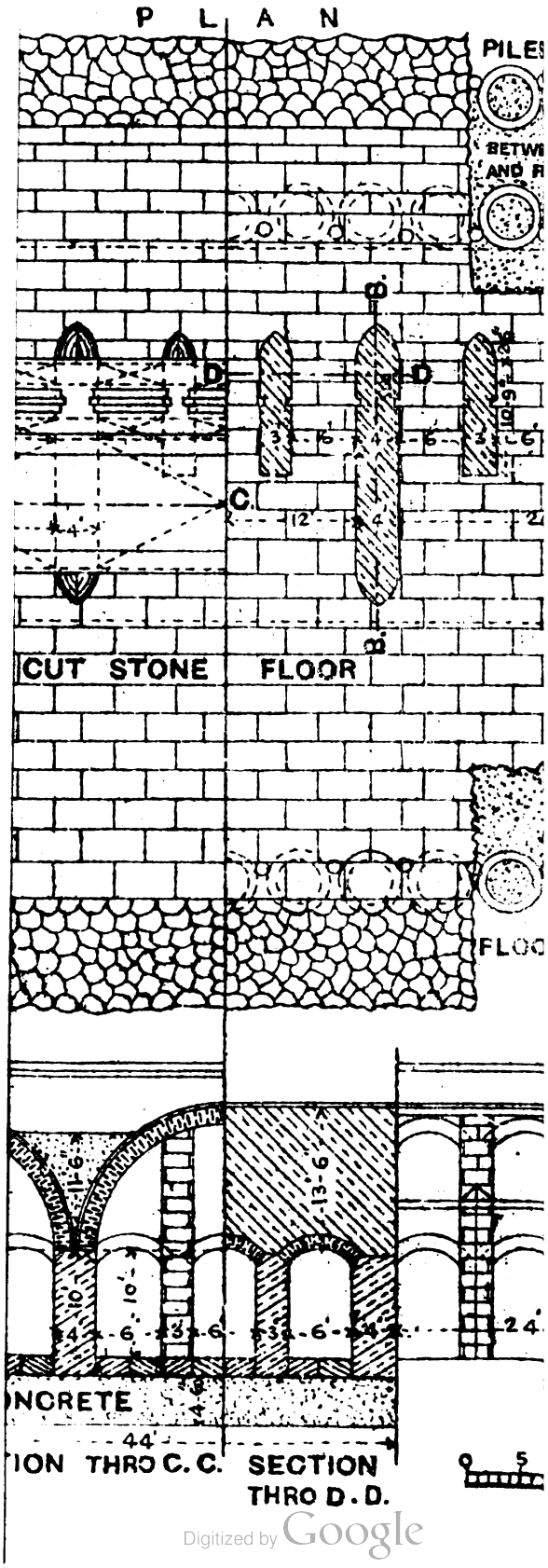
NEW HEAD SLUICES
TO
CENTRAL DELTA.



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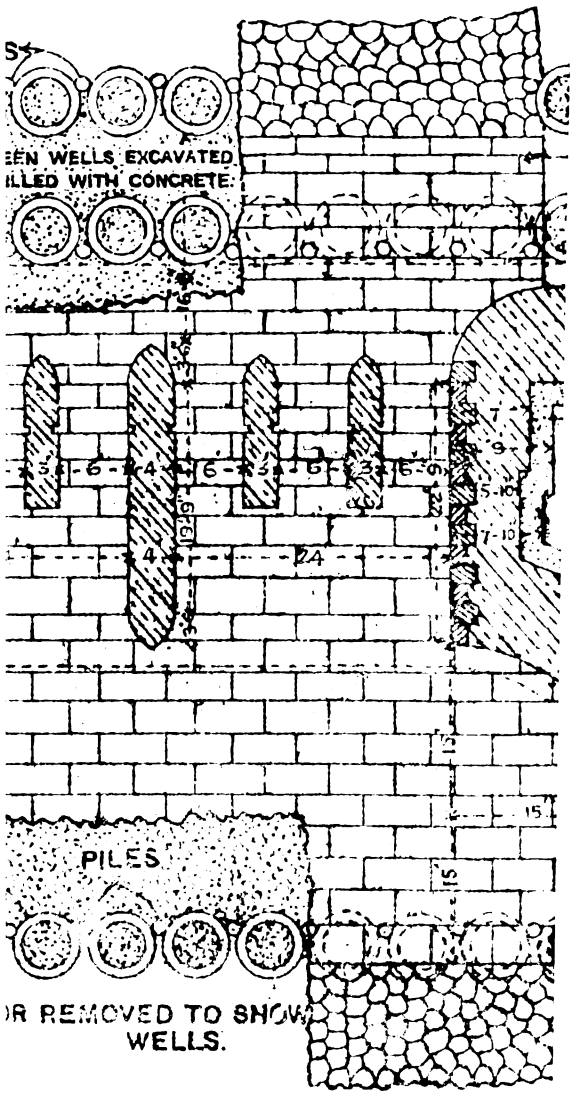
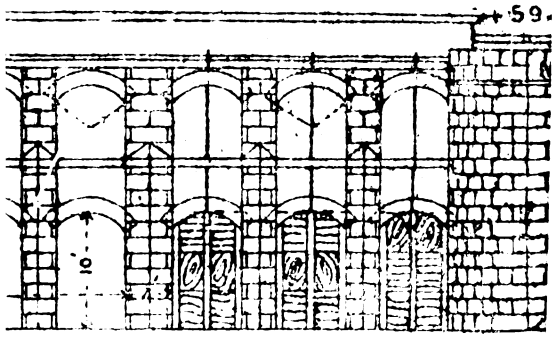
HALF AT FLOOR LEVE





FRONT ELEVATION.

Scale

10 20 30 40 50

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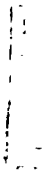

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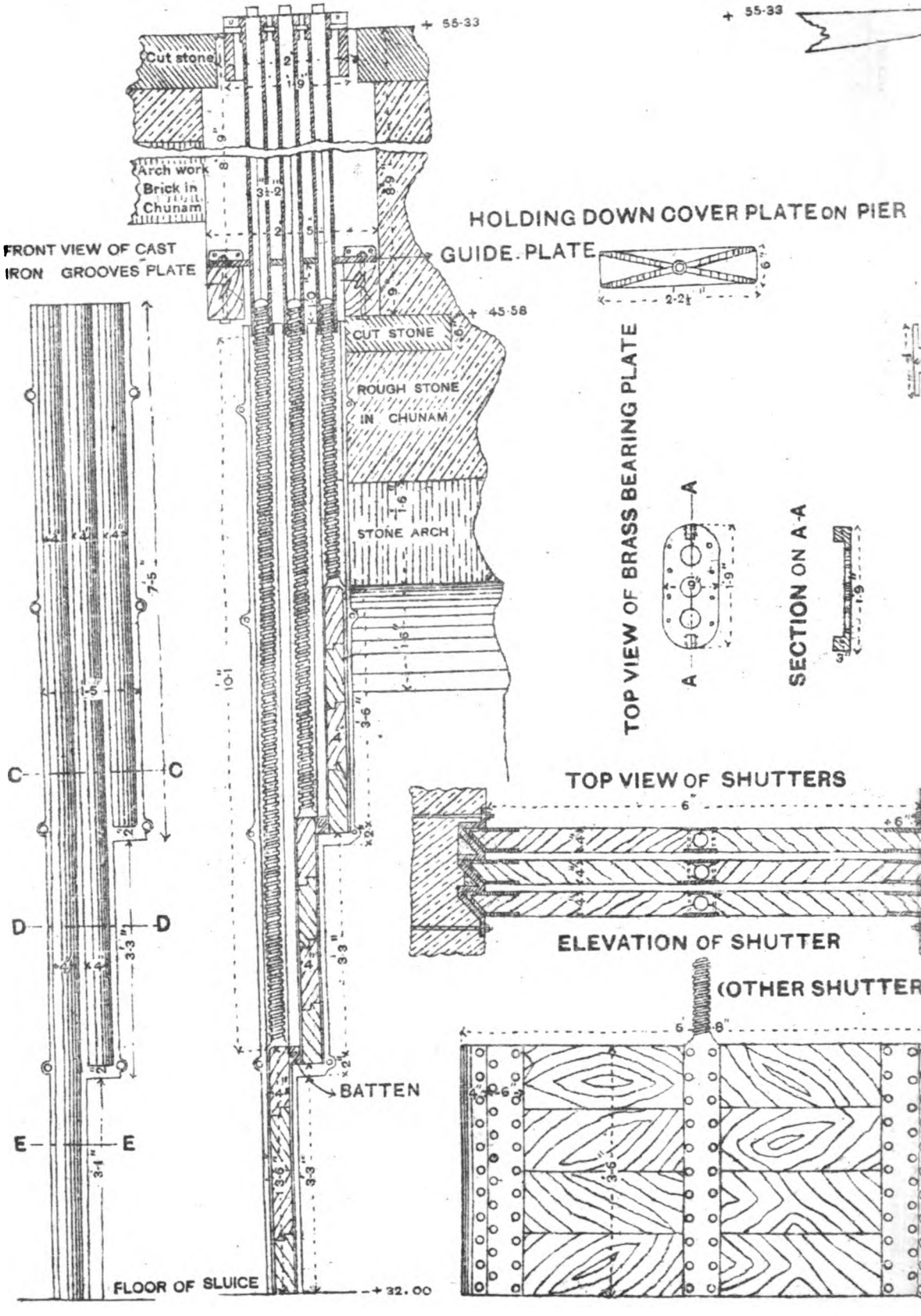
SECTION THRO: PIPES, WITH SCREWS IN ELEVATION



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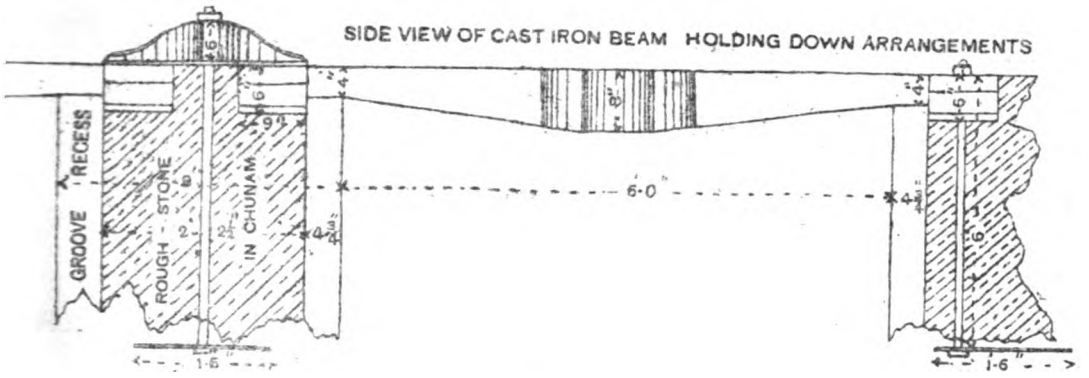
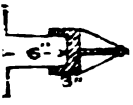
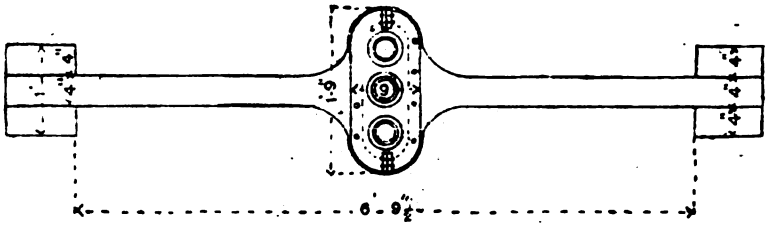
SIDE VIEW OF CAST IRON BEAM HOLDING DOWN ARRANGEMENTS



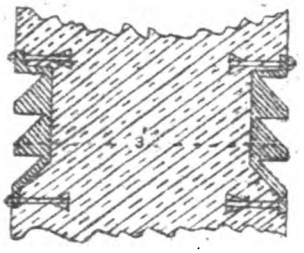
END VIEW OF BEAM



TOP VIEW



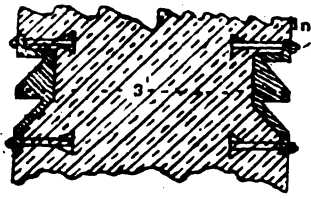
SECTION ON C.C.



SHUTTERS AND GEARING HEAD SLUICES OF CENTRAL DELTA.

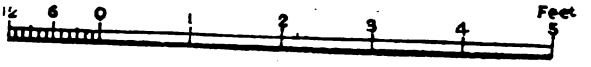
(CAPT BROCKMAN'S DESIGN)

SECTION ON D.D.

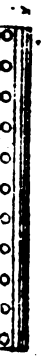


Inches

Scale



RS SIMILAR)



SECTION ON E. E.

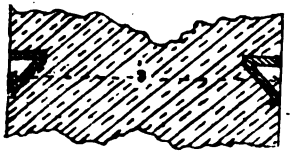


PHOTO-ZINCO. SURVEY OFFICE, MADRAS.
1896

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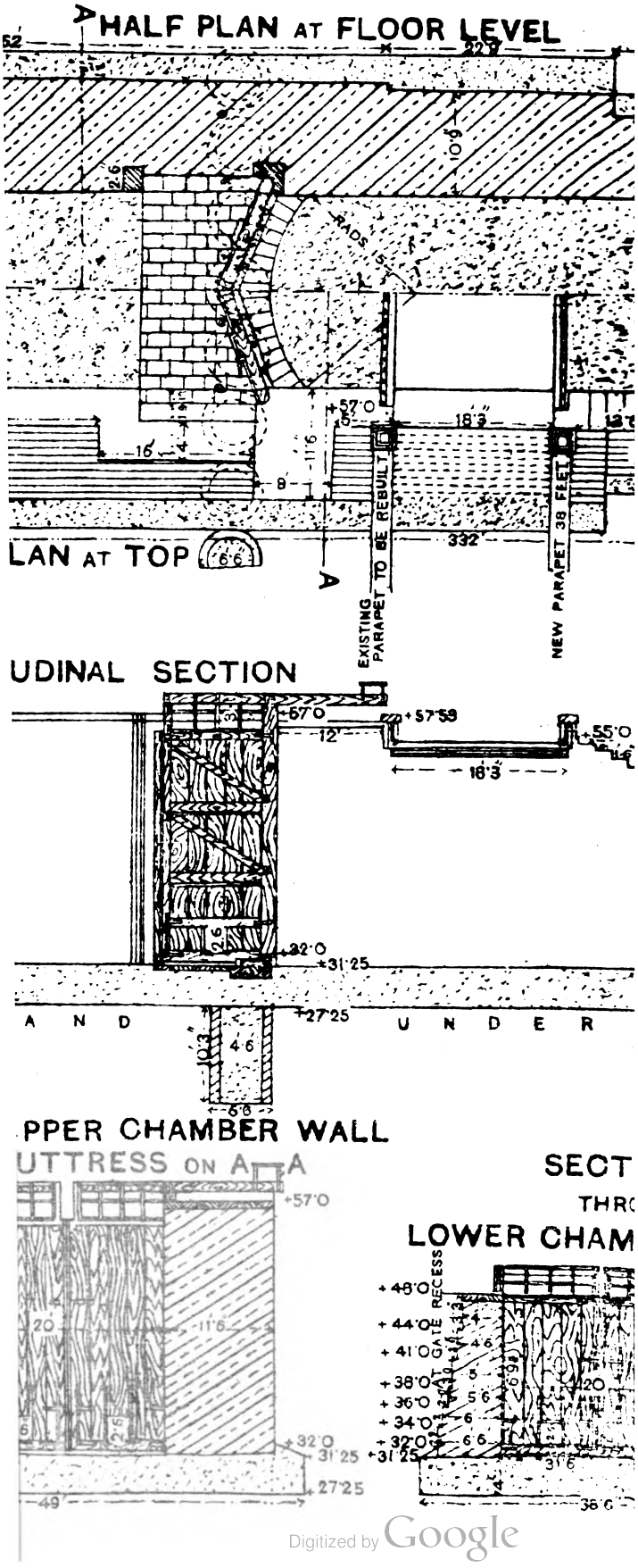
HALF PLAN AT FLOOR LEVEL
LAN AT TOP
EXISTING PARAPET TO BE REBUILT
NEW PARAPET 39 FEET
UDINAL SECTION
A N D
U N D E R
PPER CHAMBER WALL
UTTRESS ON A A
SECT
THRO
LOWER CHAM
GATE RECESS
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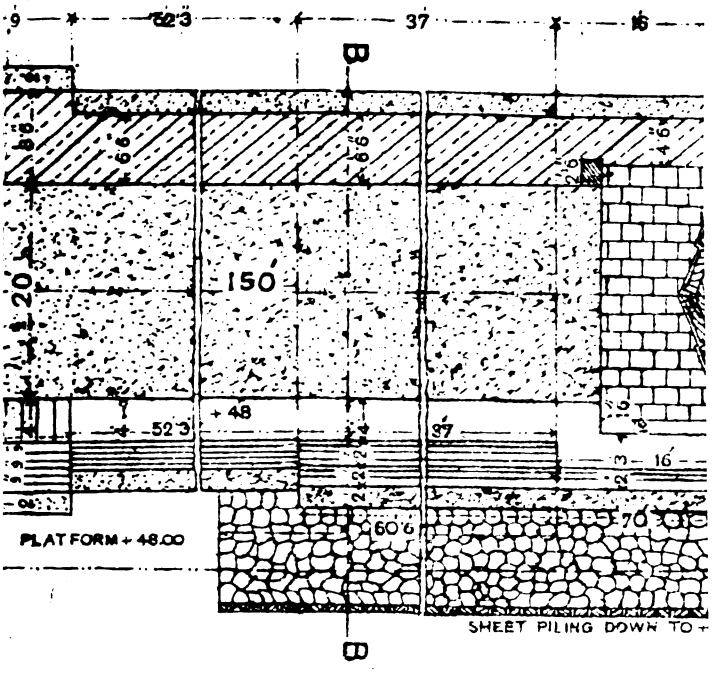

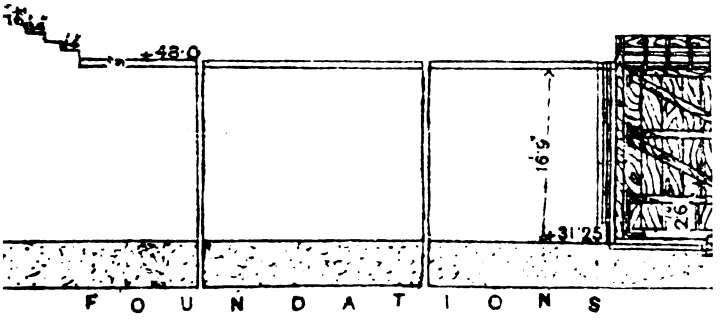

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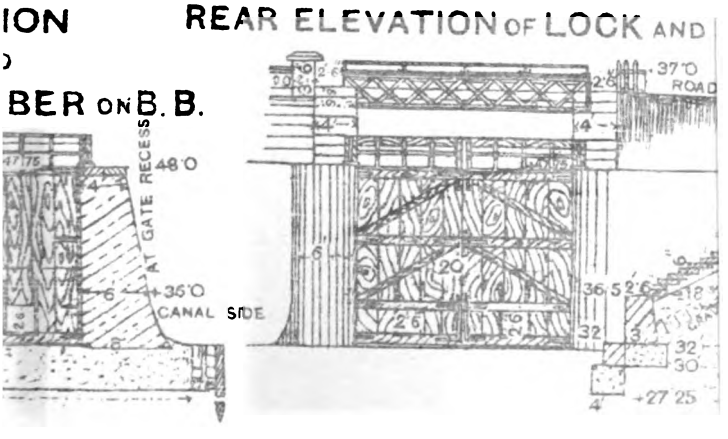
BER ON B. B.

REAR ELEVATION OF LOCK AND



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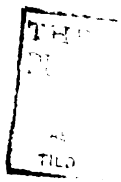

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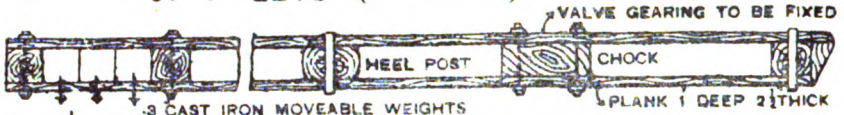
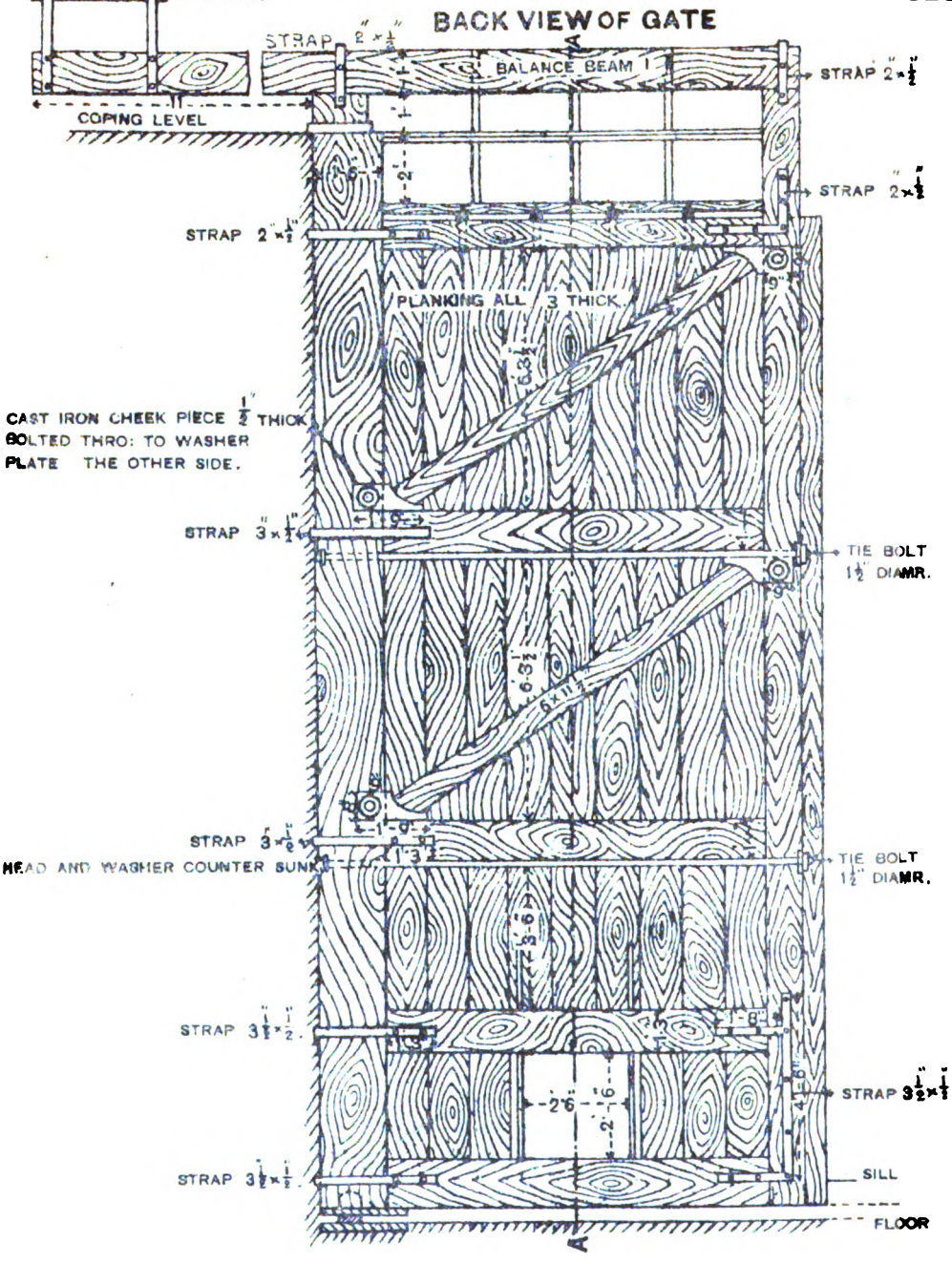
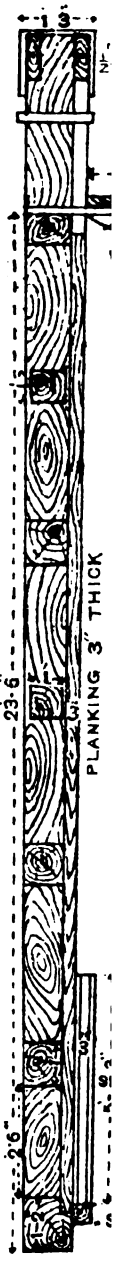
VIEW OF TOP OF LEVER (BALANCE) BEAM



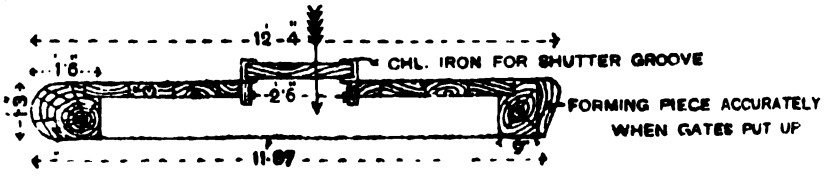
BACK VIEW OF GATE



SECTION O



PLAN OF GATE AT BOTTOM BEAM



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E RACK & PINION)

N A. A.

DETAIL DRAWING
OF
UPPER AND INTERMEDIATE GATES
OF
NEW HEAD LOCK DOWLAISHWERAM.

Scale

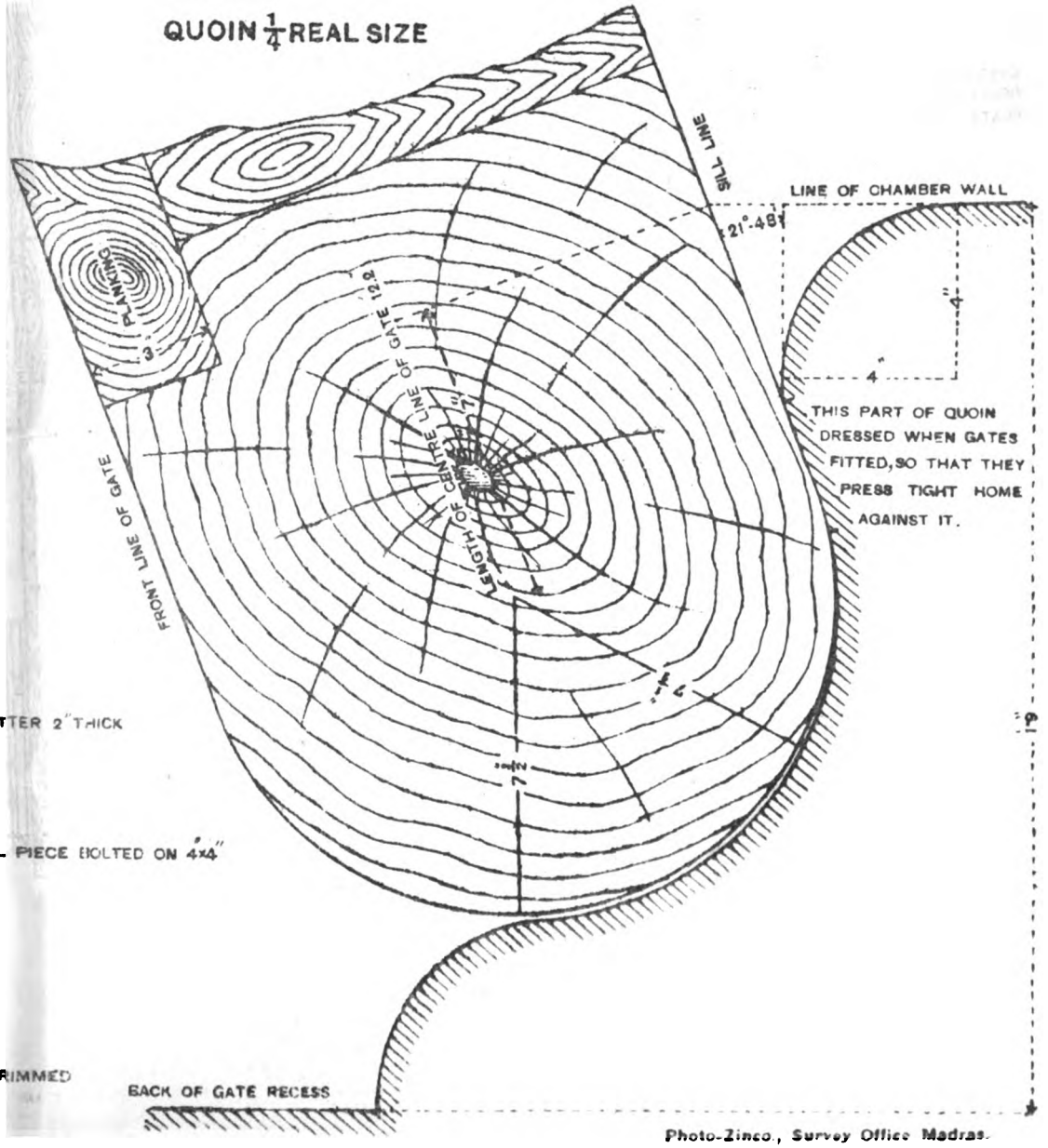
0 5 10 15 feet

1½" RAIL

1" DIAR

L IRON (4) 2"×2"×¼"

VITH PLANKS SCREWED TO THEM



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1896

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THE NE
PUBLIC
ASTOR, LE
TILDEN FO

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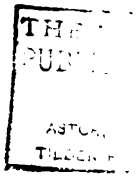

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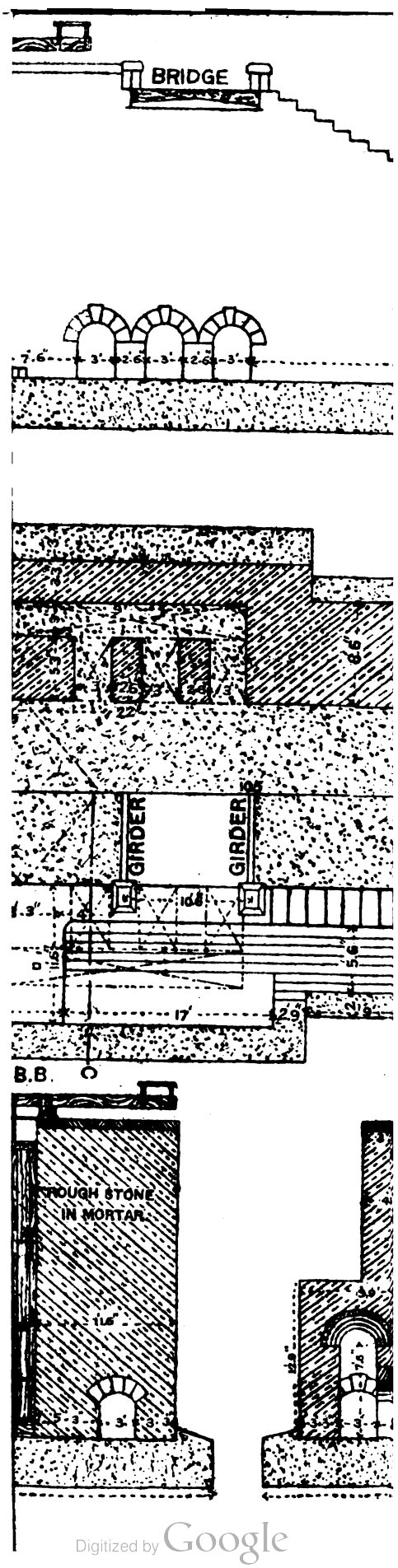

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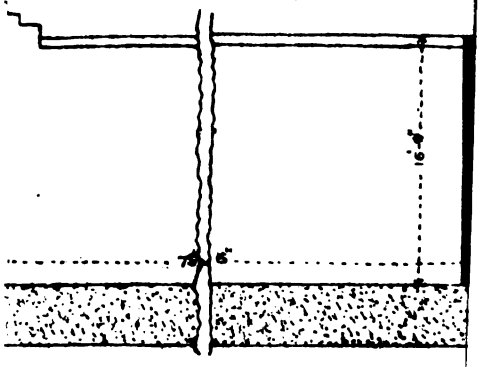
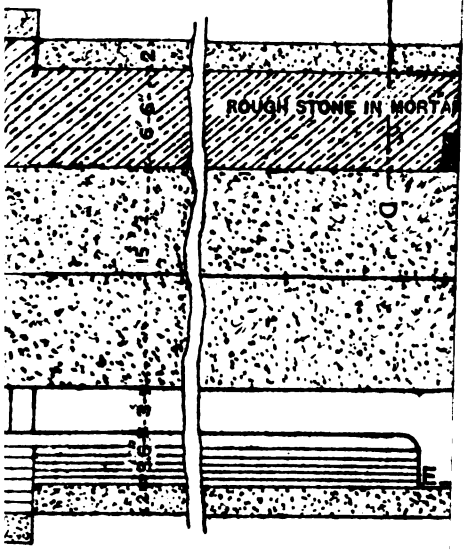
LONGITUDINAL SECTION ON G.G.



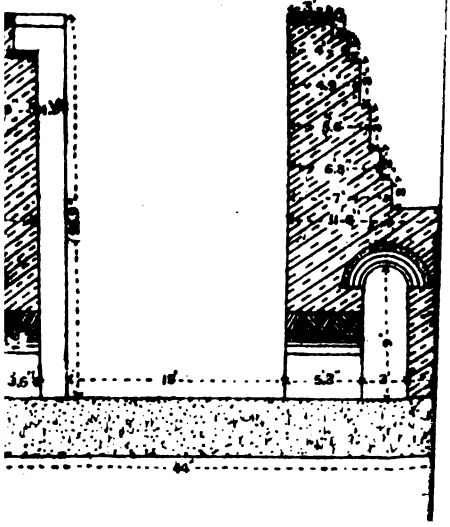
PLAN.

HALF AT FLOOR LEVEL



HALF AT TOP

SECTION ON C.C.



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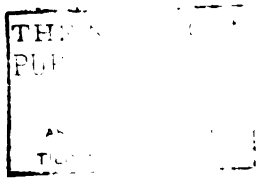

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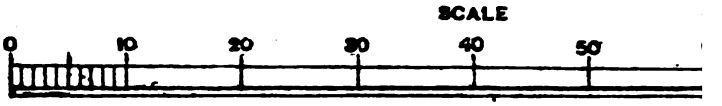
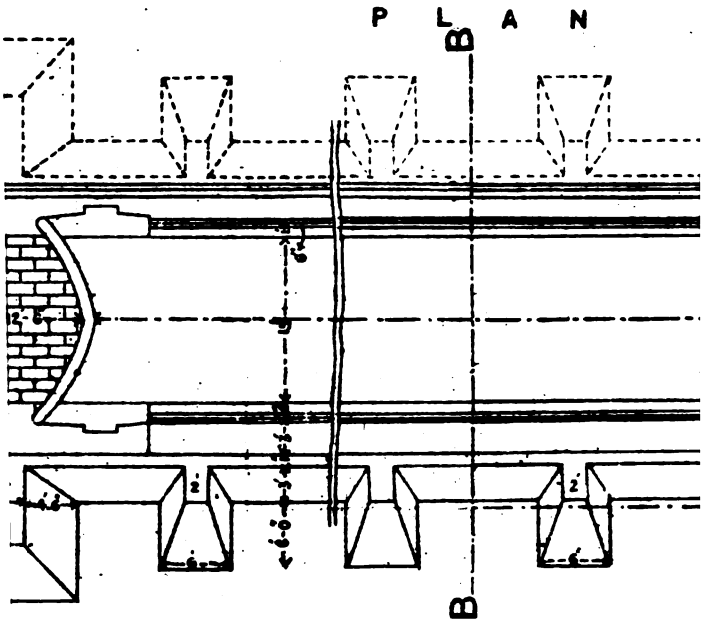
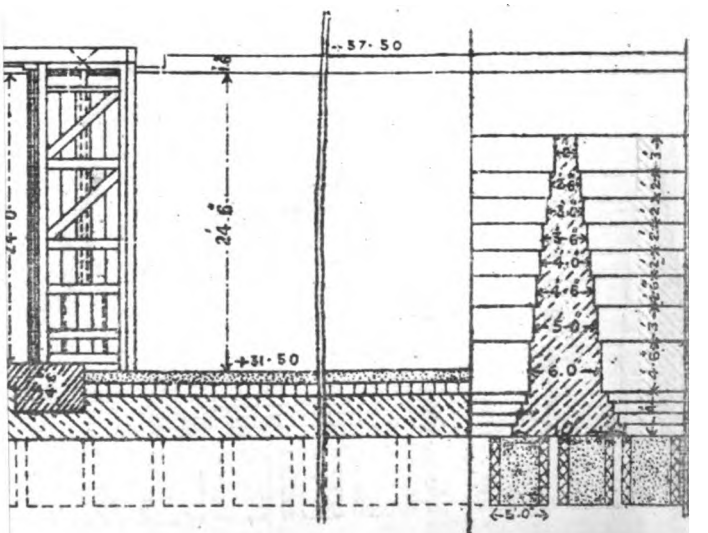
OLD VIZESWERAM LOCK
(AT HEAD OF WESTERN DE

BUILT IN 1853-54.





LONGITUDINAL SECTION ON



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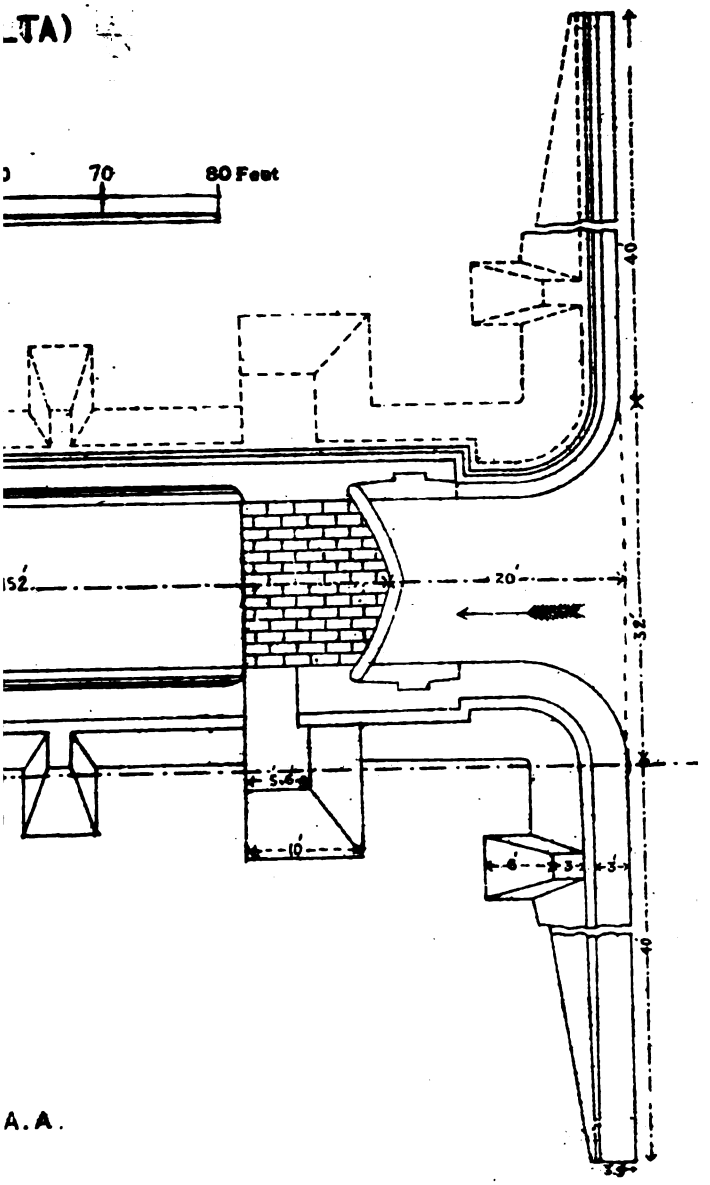

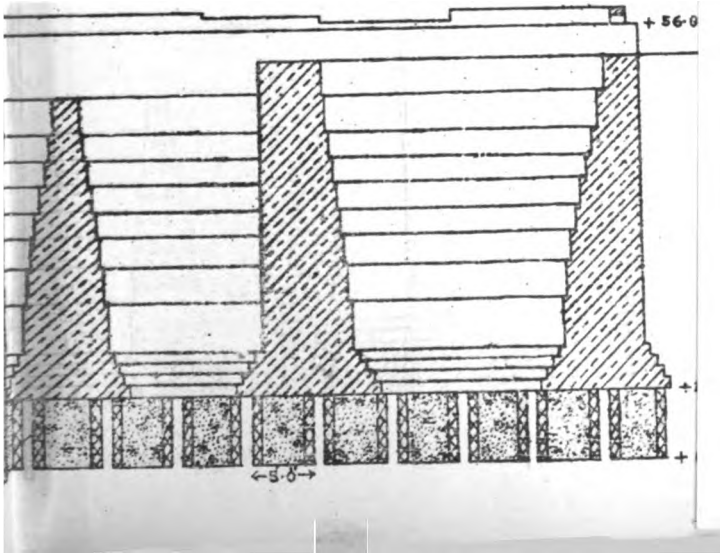

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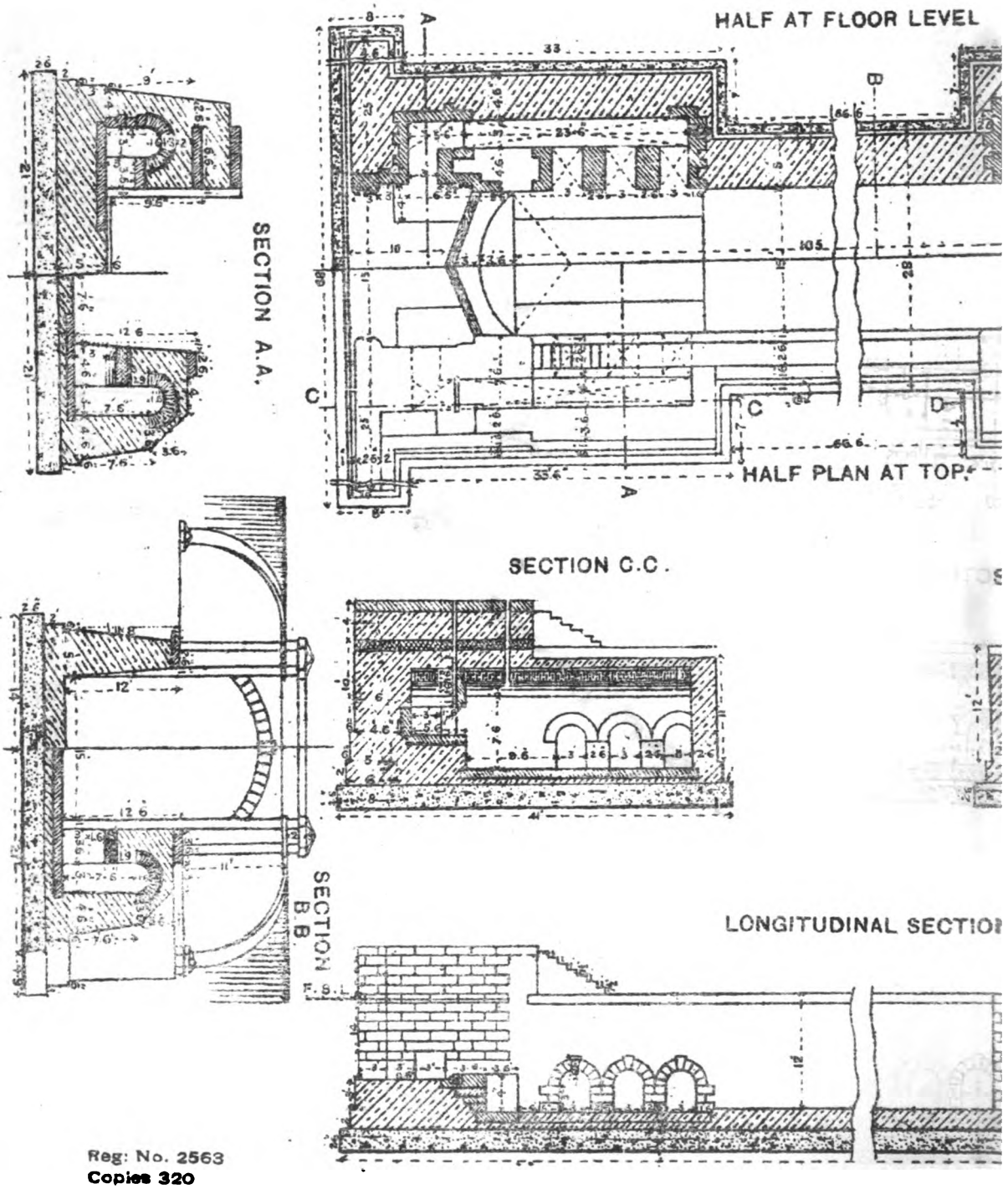
RALLI LOCK (2 ND
AT HEAD OF GUNNAR
CENTRAL DE

SCALE

0 10 20 30



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CLASS)

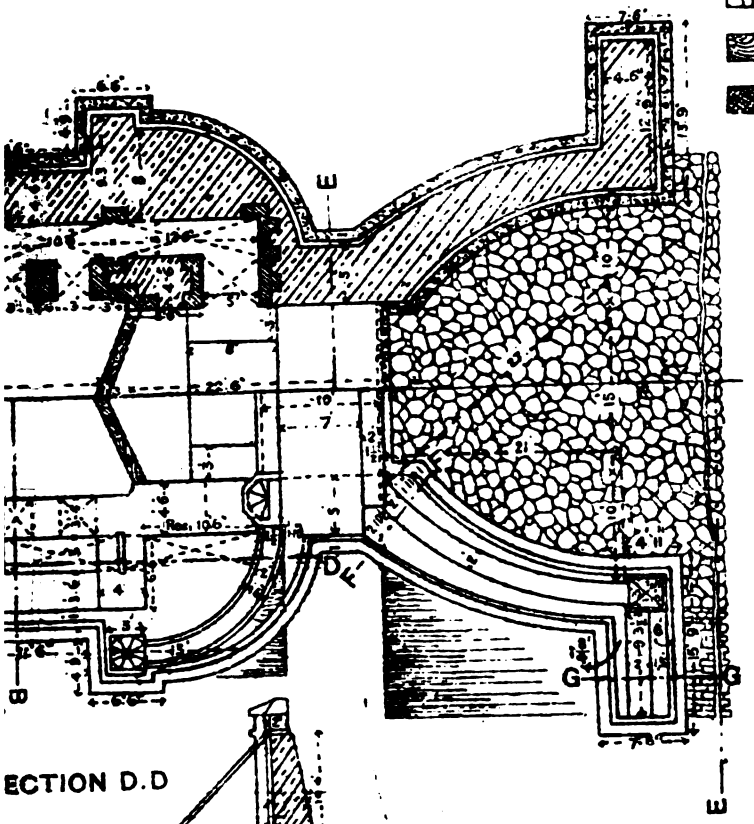
AM CANAL.

LTA.

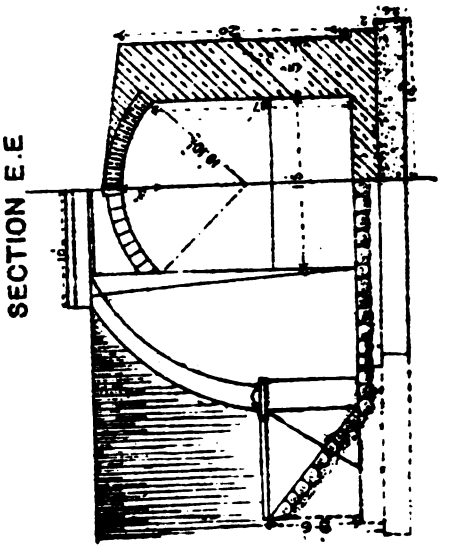
40 50 60 Feet

REFERENCE.

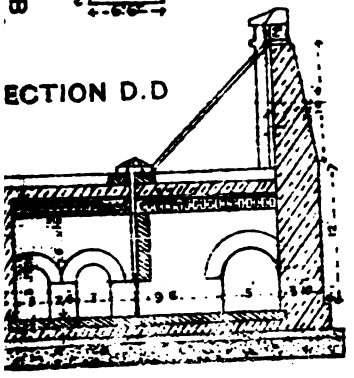
- Concrete
- Rubble in Mortar
- Cut Stone
- Arch work (Brick in Mortar)
- Rough Stone
- Wood
- Stone Arch



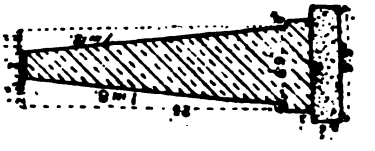
SECTION E.E



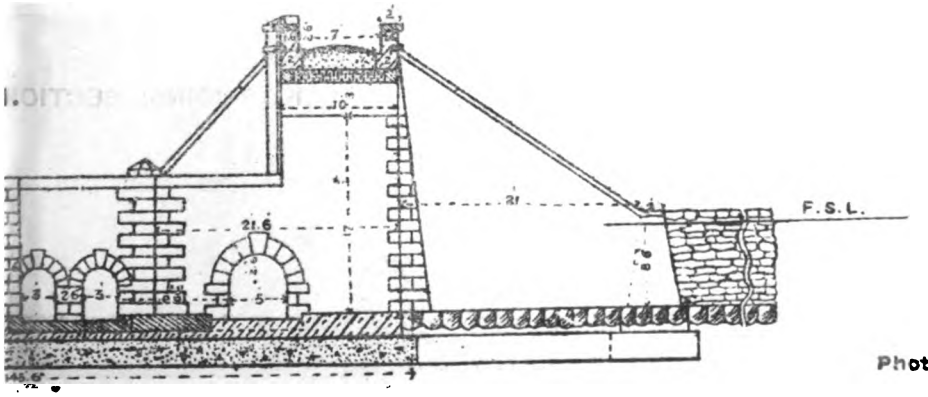
ECTION D.D



SECTION F.F.



SECTION G.G



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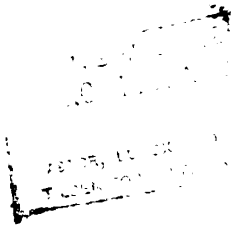

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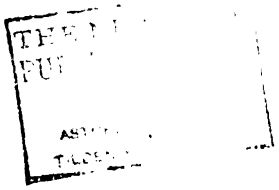

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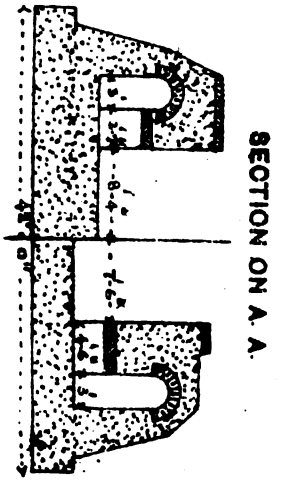
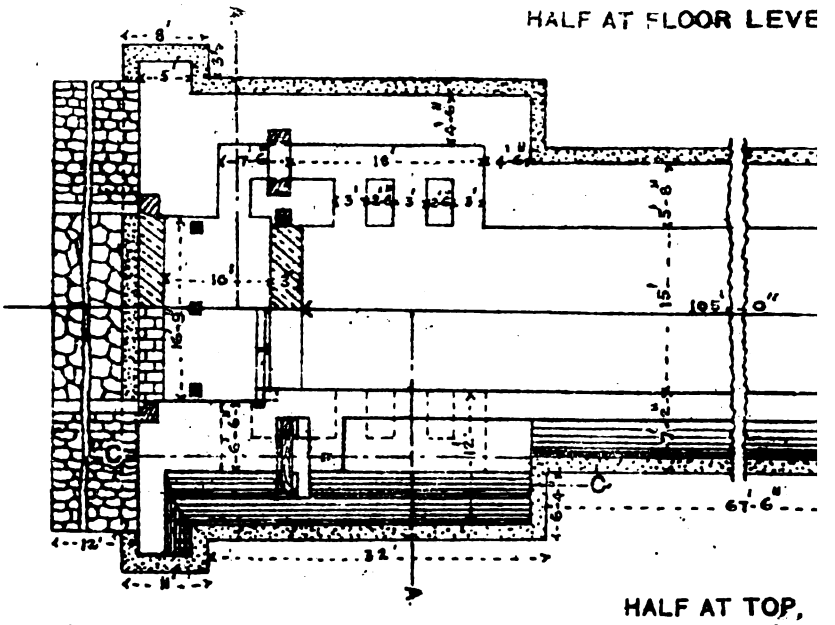
PLAN.

HALF AT FLOOR LEVE

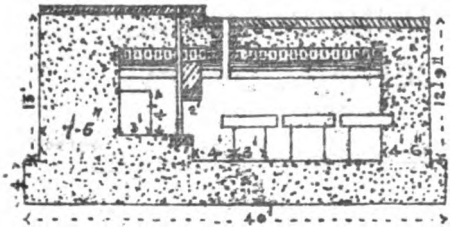


SECTION ON A. A.

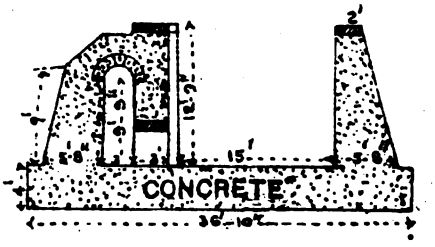


HALF AT TOP,

SECTION ON C.C.



SECTION ON D.D.



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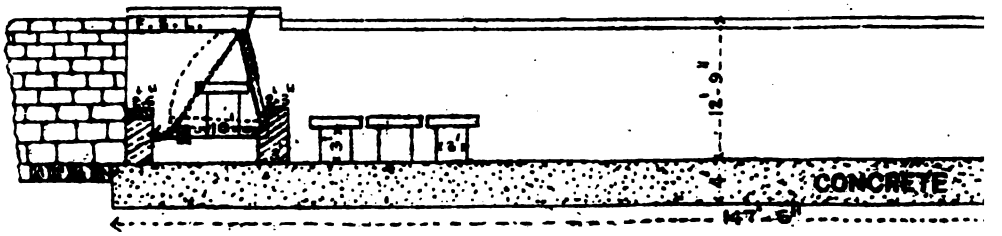

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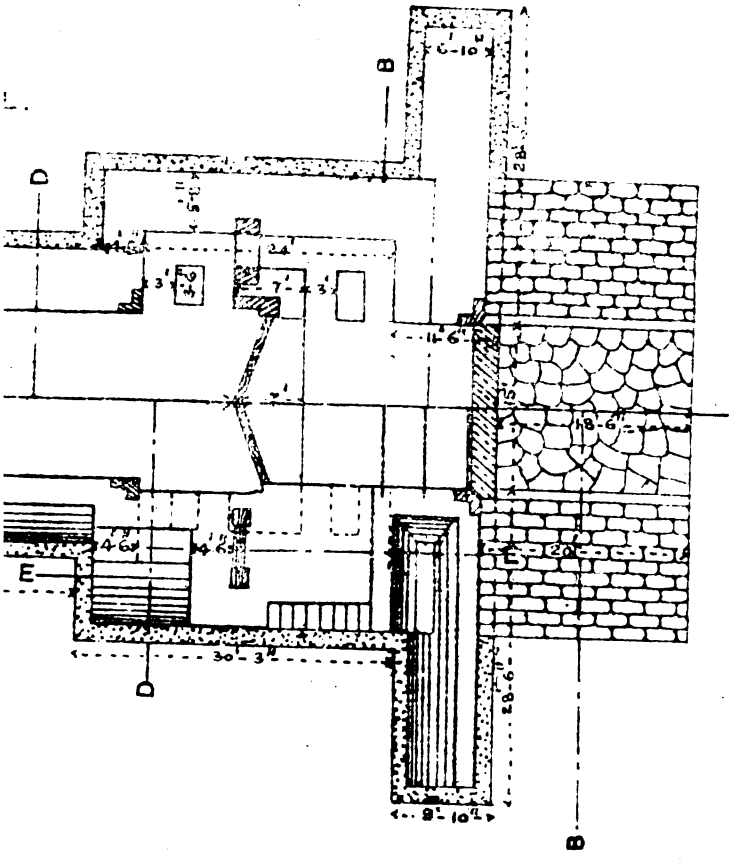
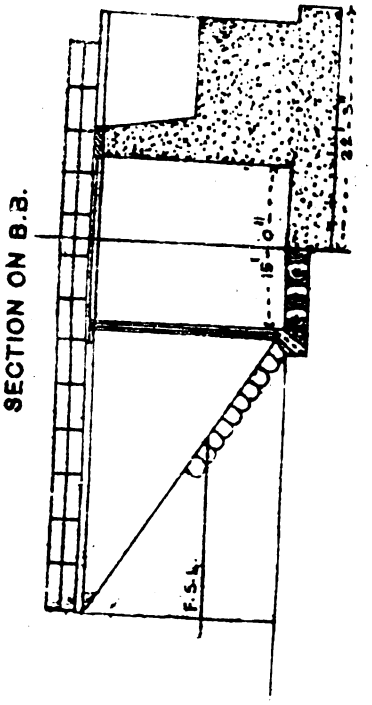
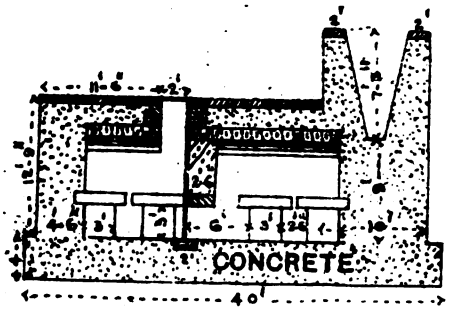




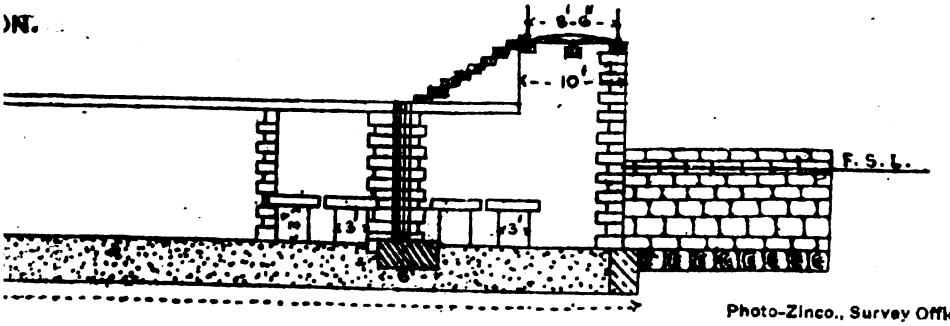
SECTION ON E.E.



CONCRETE LOCK (2ND CLASS) AT GOPALAPURAM. GUNNARAM CANAL. CENTRAL DELTA.

Scale

0 5 10 20 30 40 Feet



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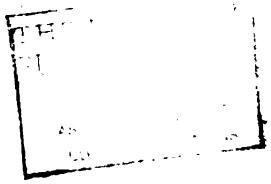

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DETAILS OF

UPPER TUMBLE GATE.

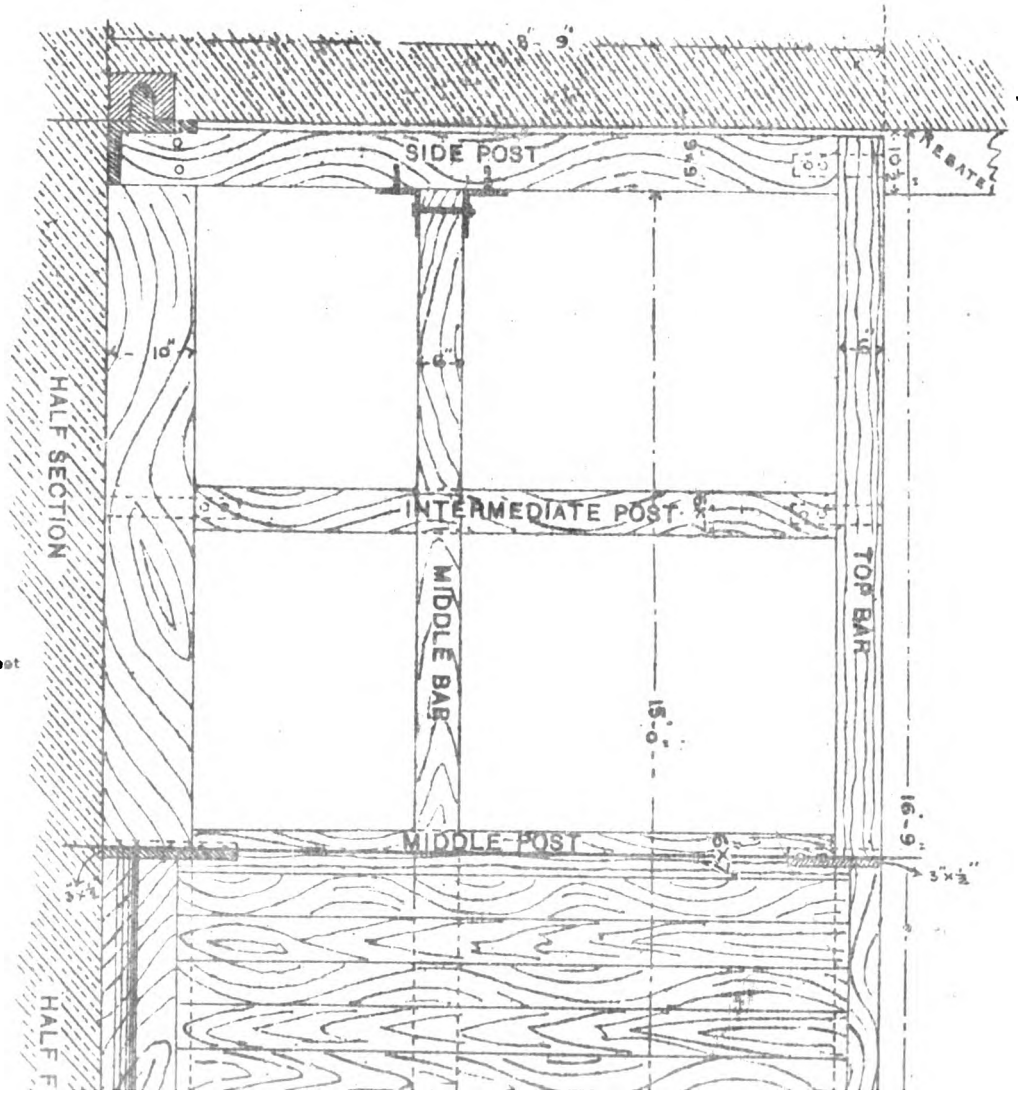
GOPALAPURAM LOCK.

Scale

12 9 6 3 0 1 2 3 4 5 6 Feet

SECTION.

COPING



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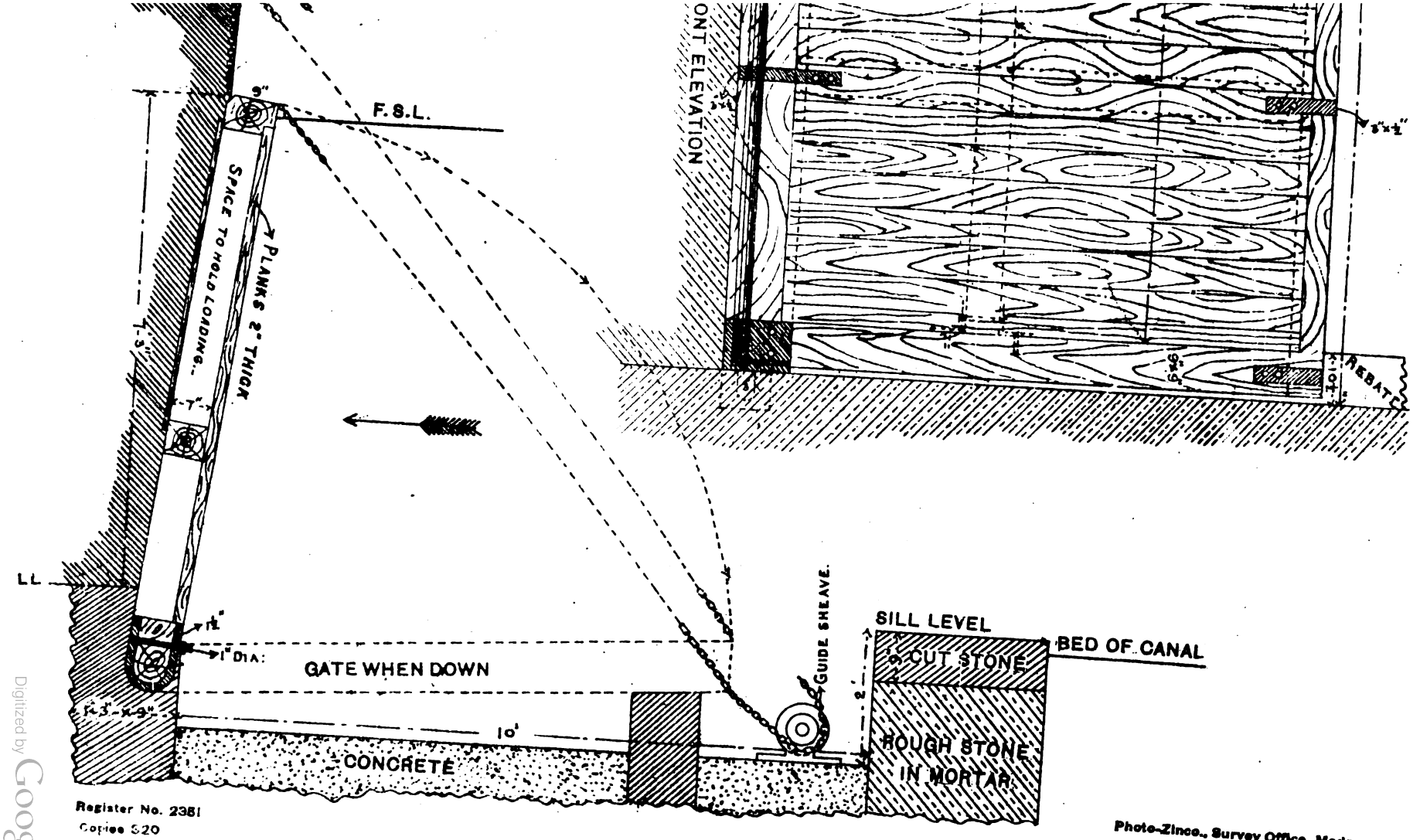

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ASTOR, LENOX AND
TILDEN FOUNDATIONS

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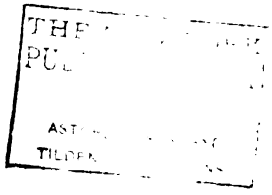

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REFERENCE

- Concrete
- Rubble in Mortar
- Brick in Chunam (Arch work)
- Cut Stone
- Wood

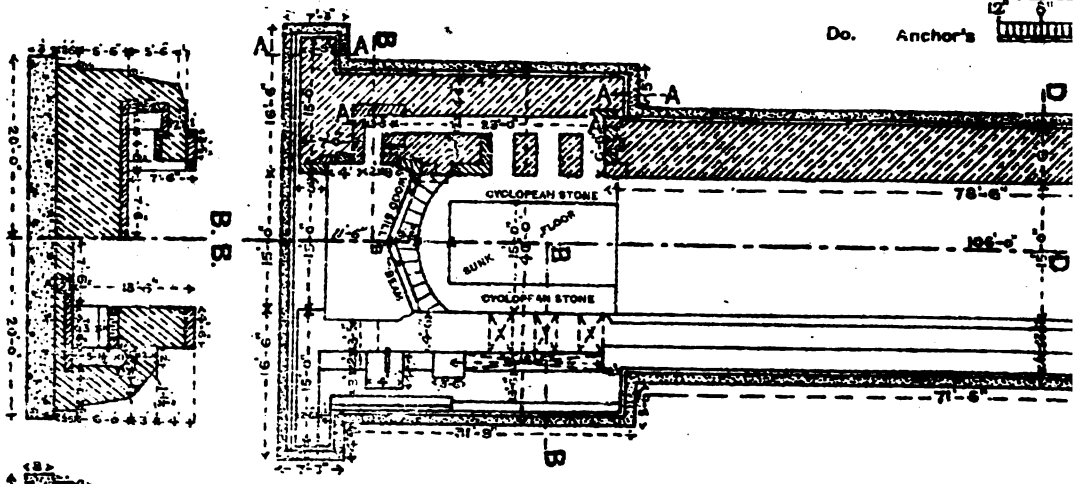
SIDDHAN

B
W

For Masonry → 10 5

For Details of gates 3 2

Do. Anchor's 12 6



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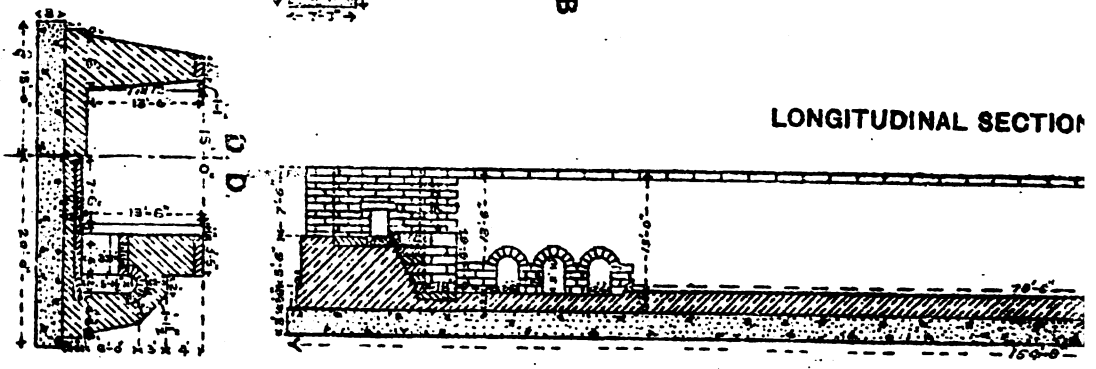
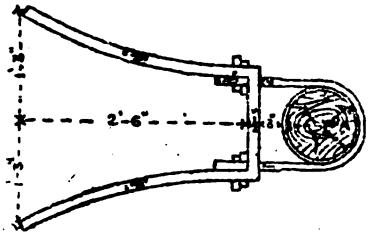
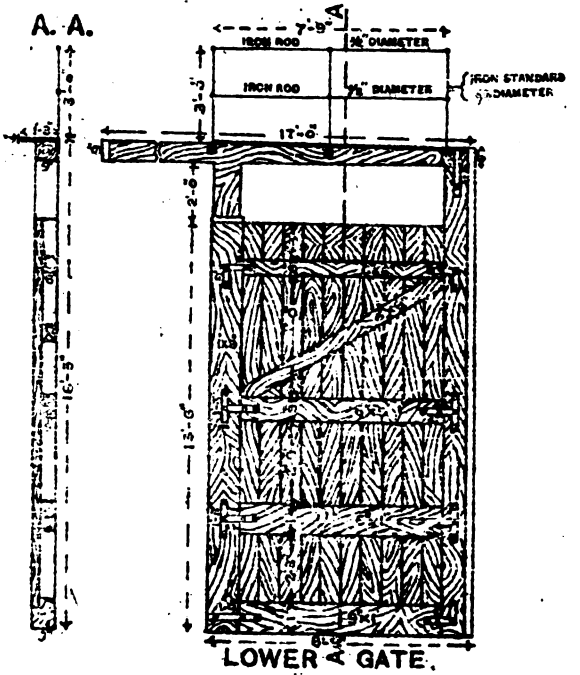




LOWER GATE ANCHOR.



LOWER GATE.

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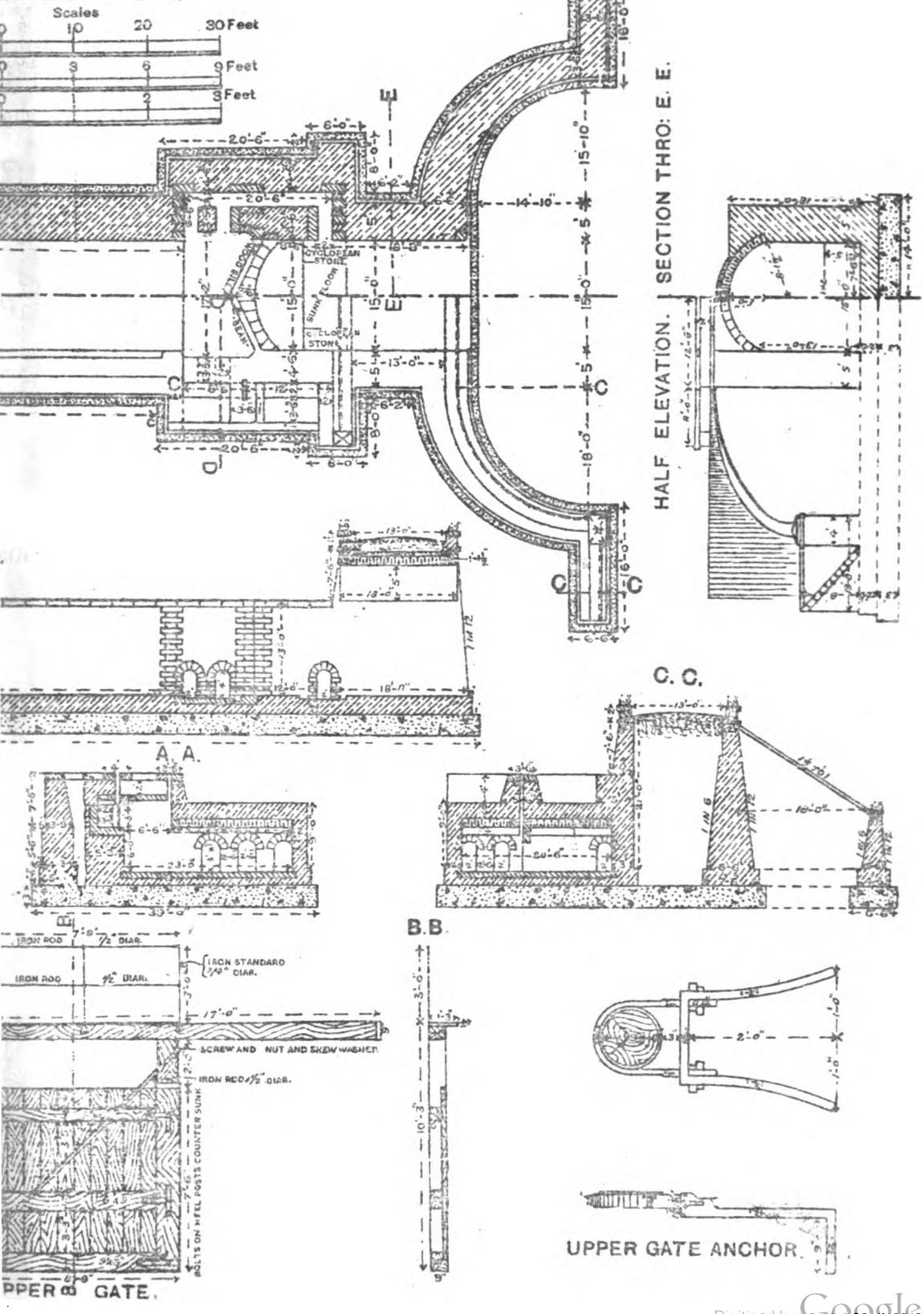
'AM LOCK (2ND CLASS)

ANK CANAL.
ESTERN DELTA.



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1896

THE NEW
PUBLIC LIBRA
ASTOR, LENOX AND
TILDEN FOUNDATIONS.

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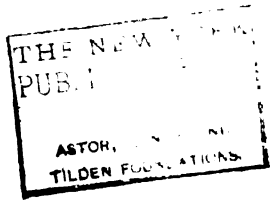

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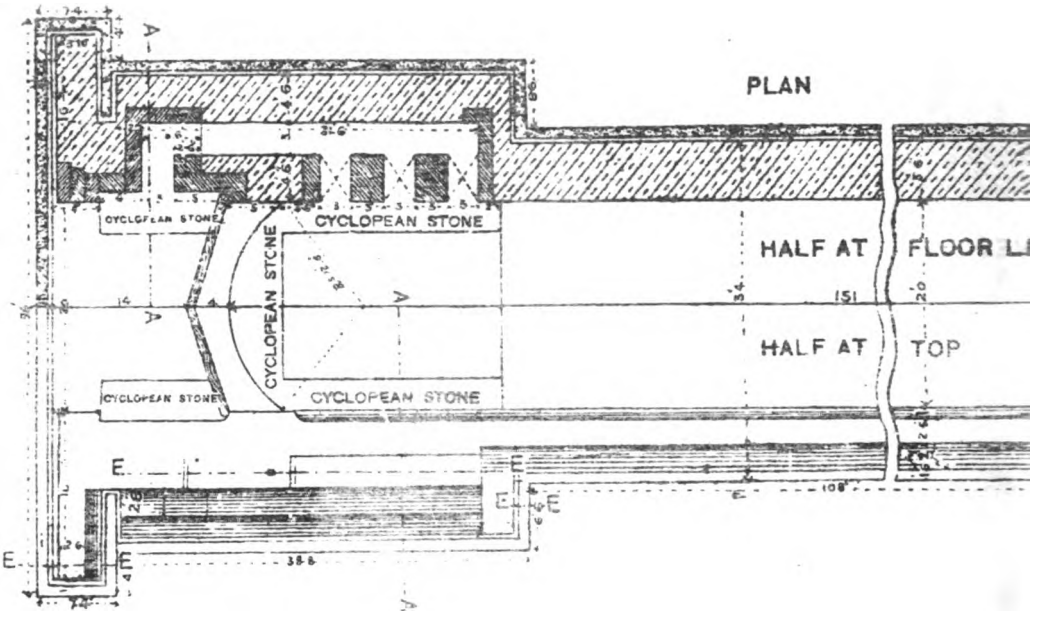

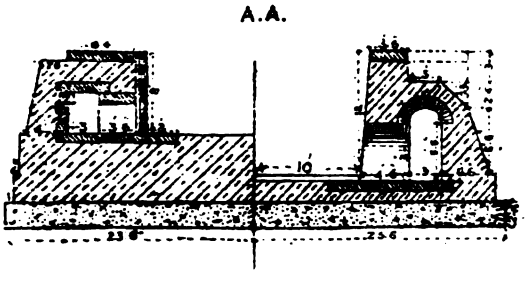

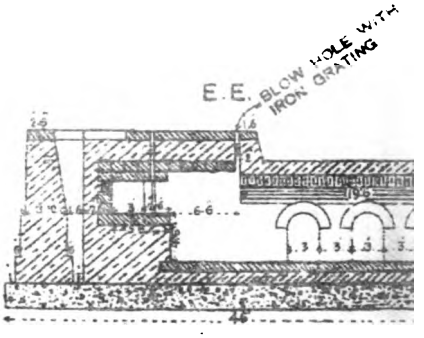

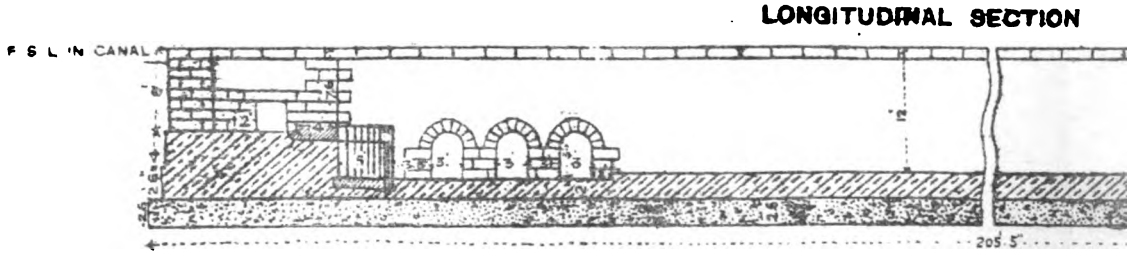

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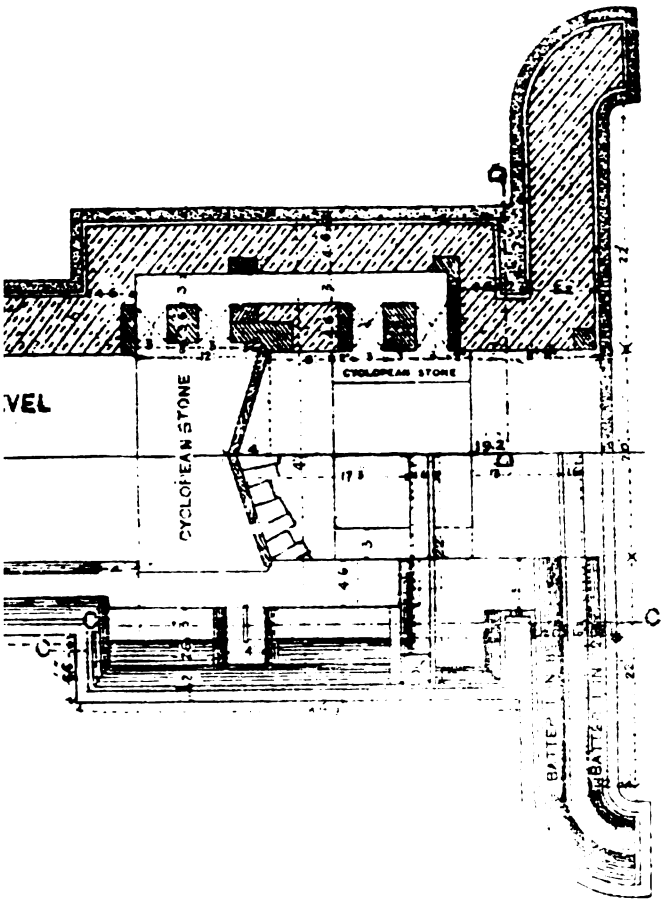
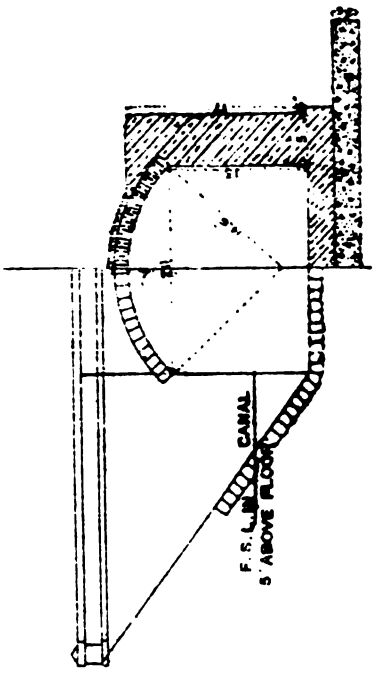
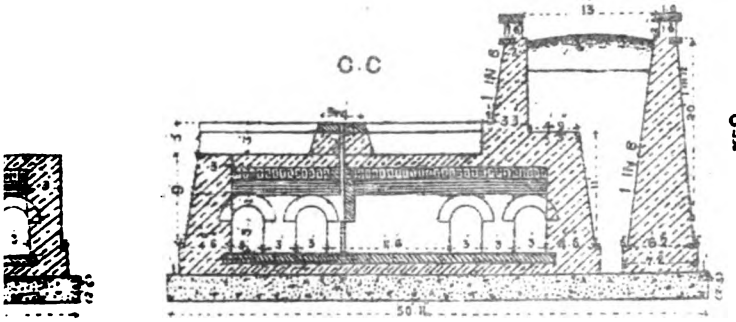


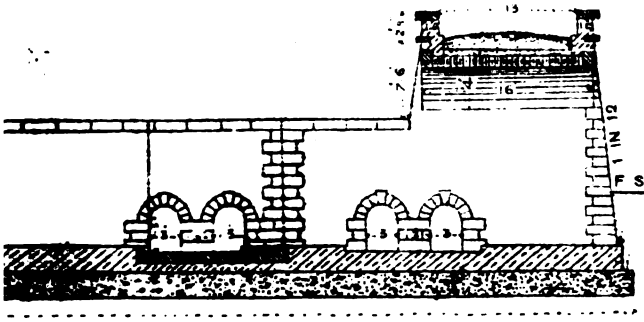


PALAKOLU LOCK.
NARSAPUR CANAL.
WESTERN DELTA.

SCALE.

0 10 20 30 40 feet





REFERENCE.

- Concrete
- Rubble in Mortar
- Cut Stone
- Arch work
- Rough Stone
- Wood

Photo-Zinco., Survey Office Madras.
1896.

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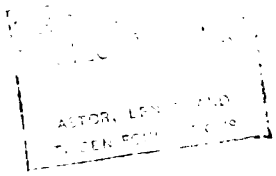
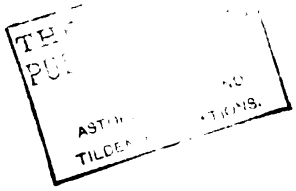

ASTOR, LEN
TILDEN FOU

Digitized by Google



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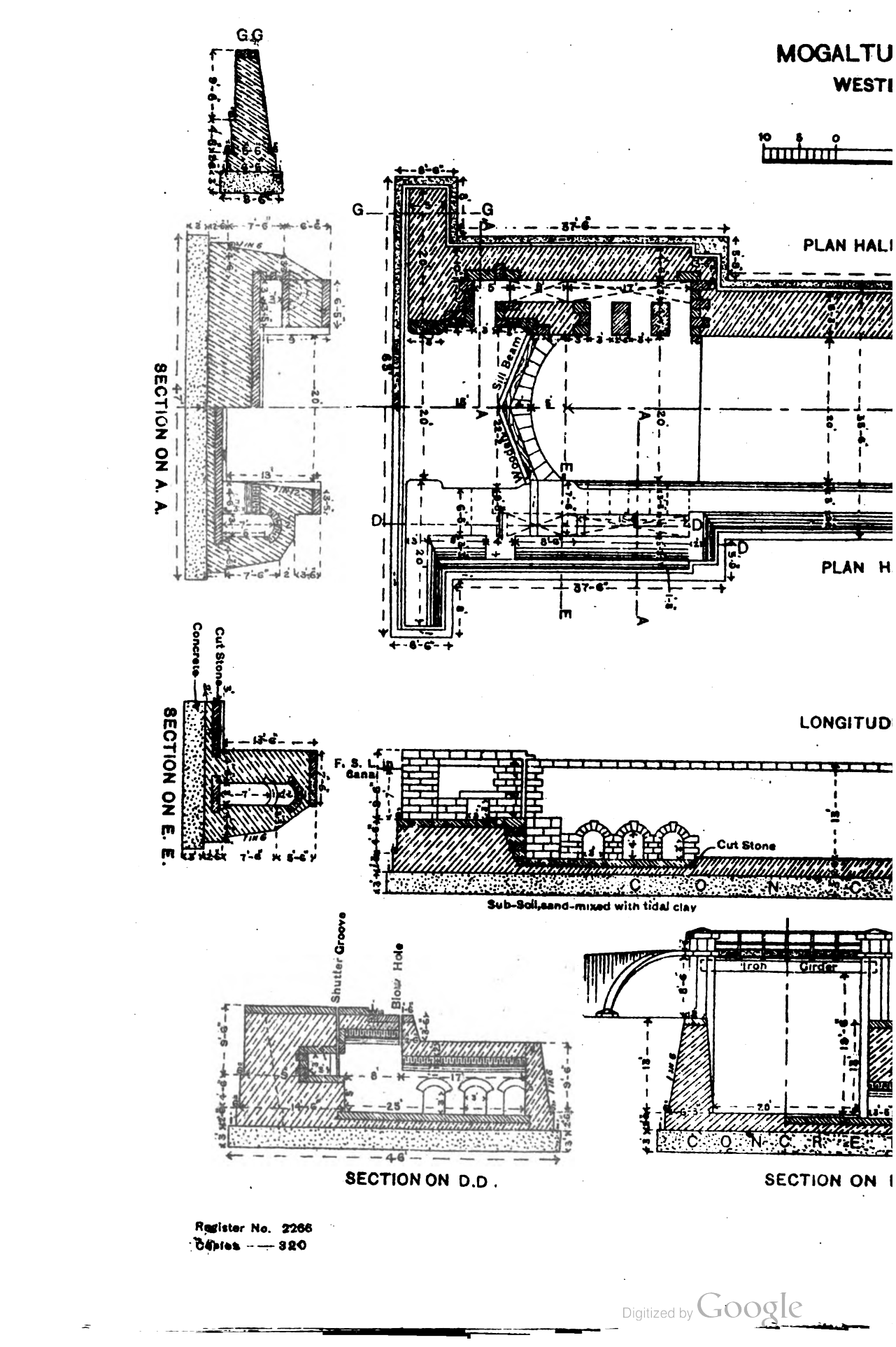

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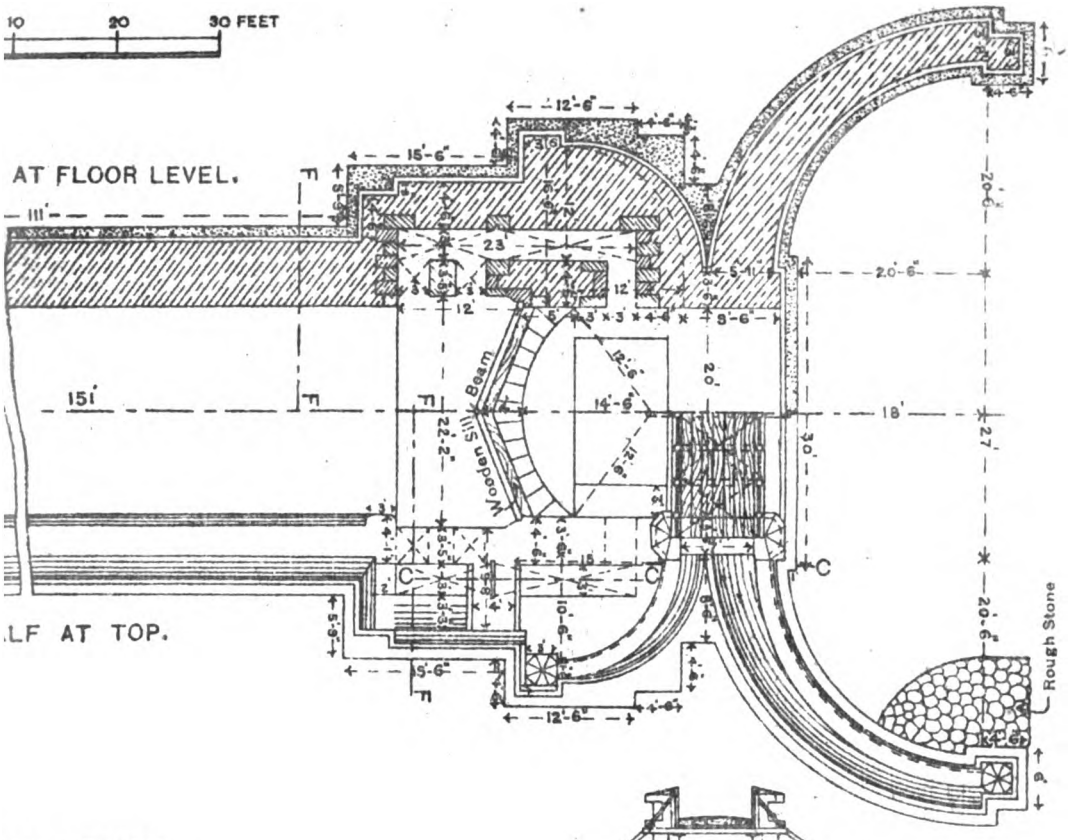
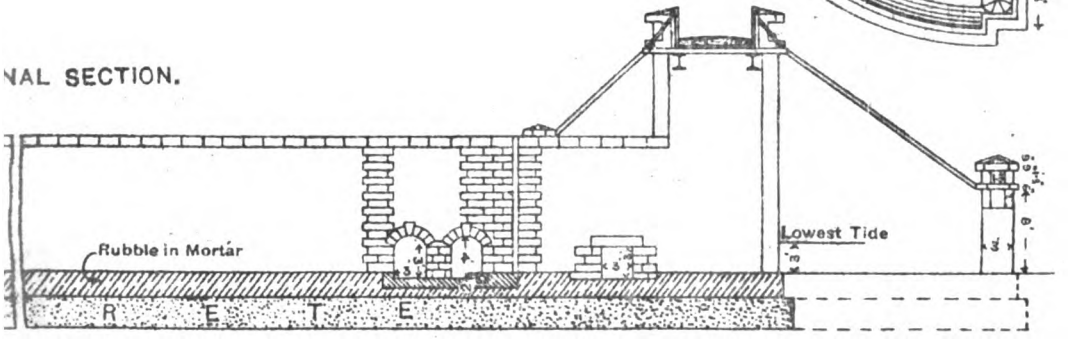
R TIDAL LOCK.

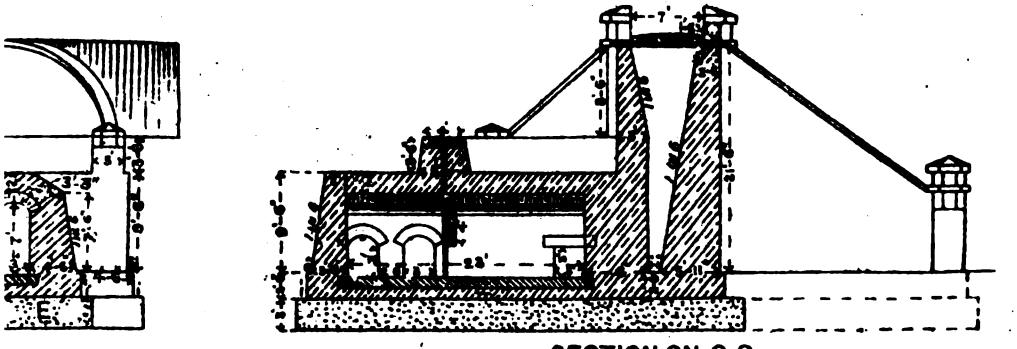
RN DELTA.

Scale

10 20 30 FEET







. F.

SECTION ON C.C.

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1895

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THE NEW
PUBLIC LI
ASTOR, LENOX AND
TILDEN FOUNDATIONS.

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SECTION OF WINGS

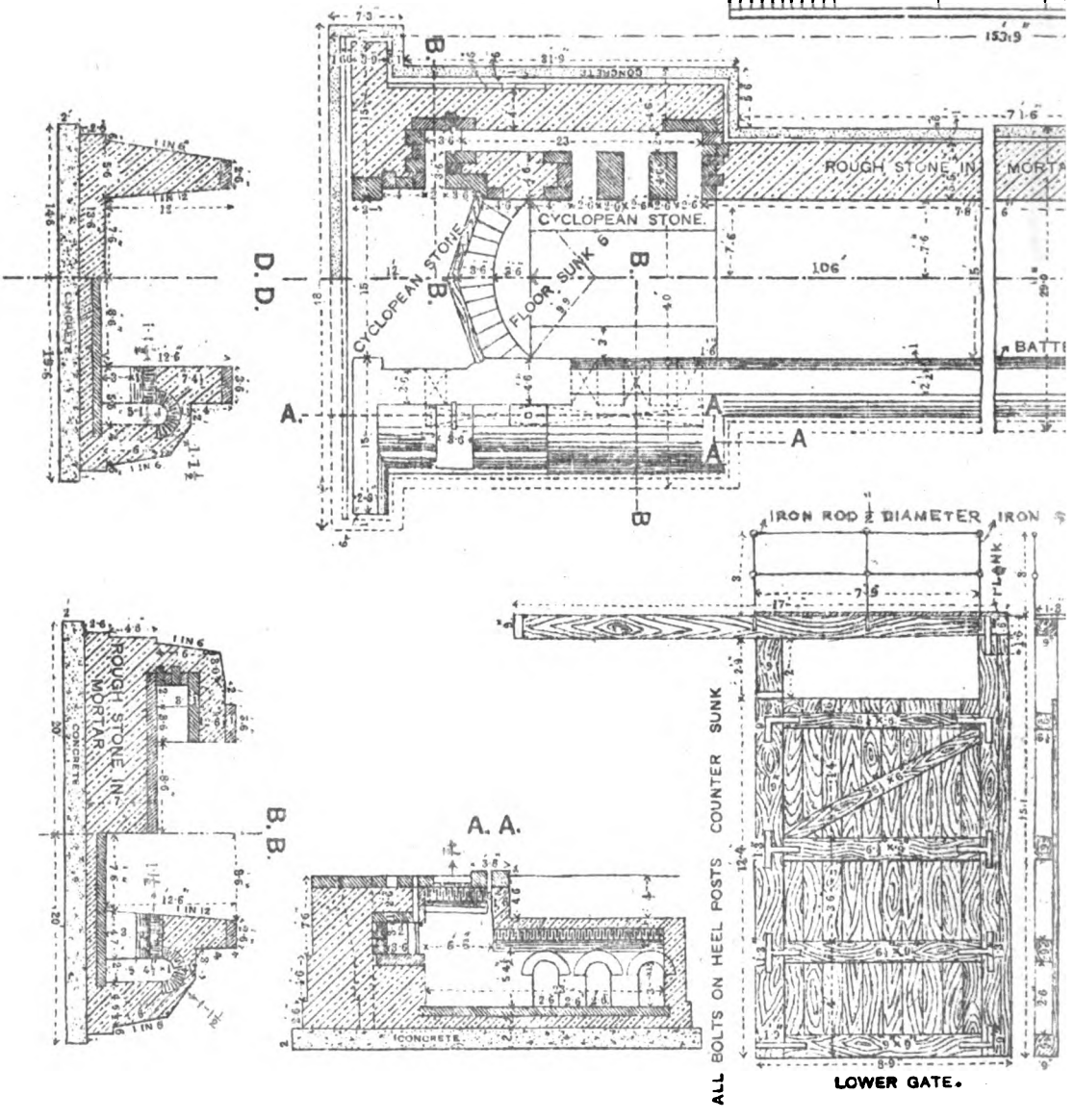
GUMMAMPAD LOCK (

ATTILI CANA

WESTERN DE

Scale

0 5 10 20 30



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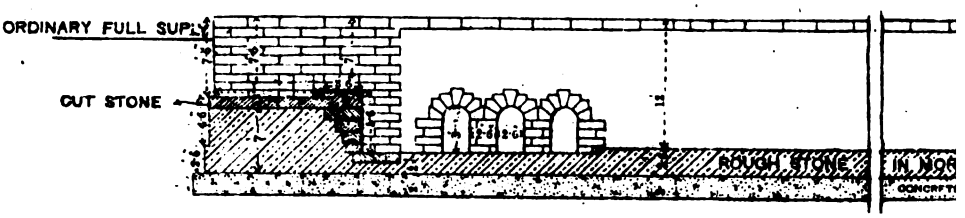

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2ND CLASS)

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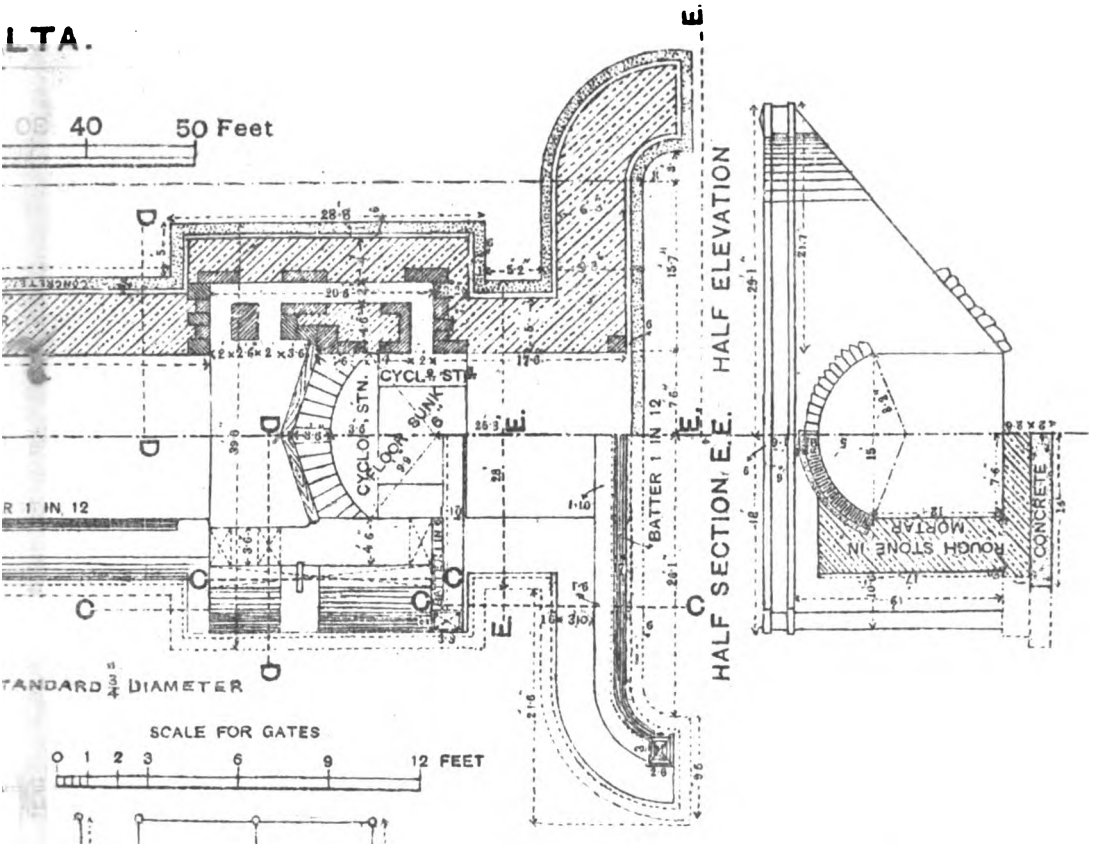

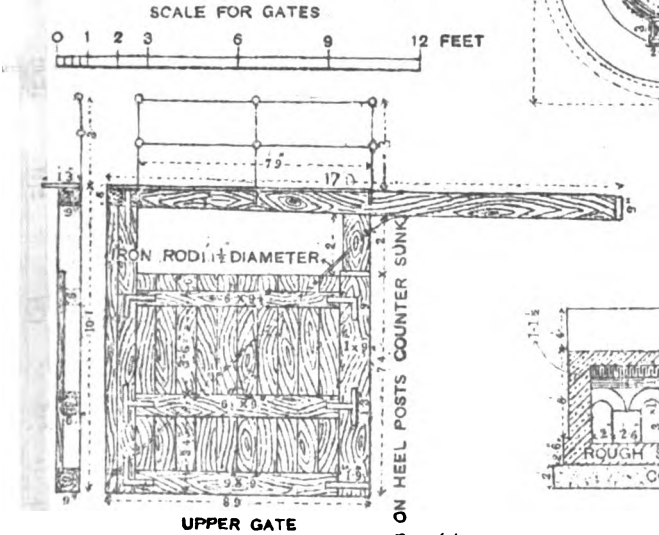

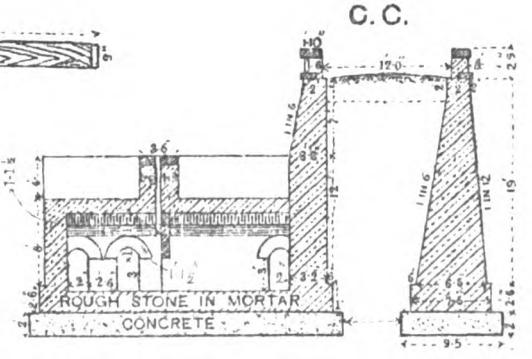

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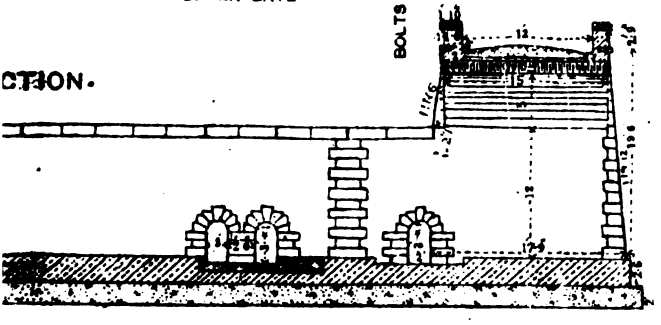

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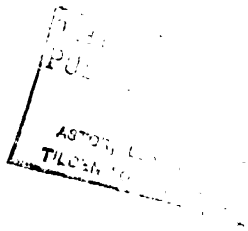

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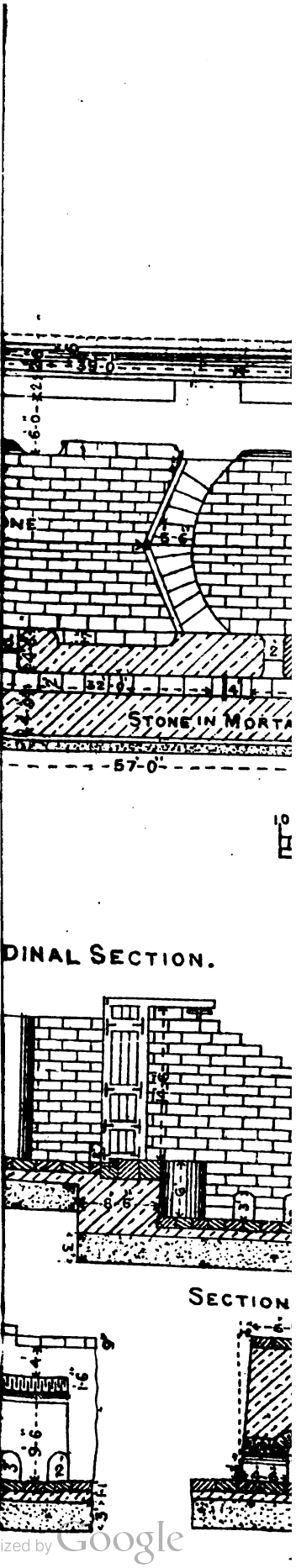

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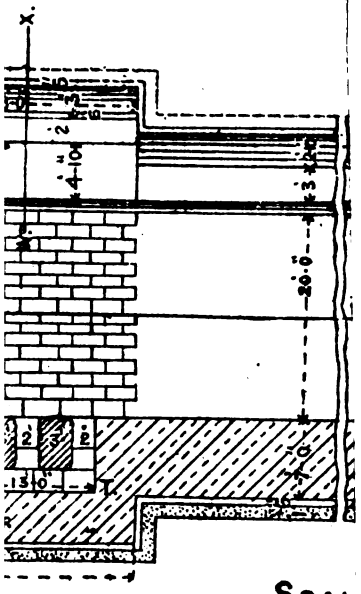
DOUBLE LOCK AT
JUNCTION
WESTERN

ACTUAL COS



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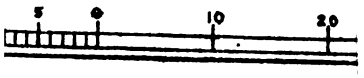

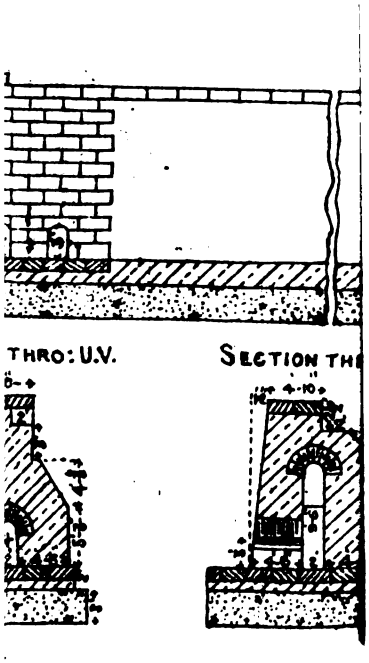

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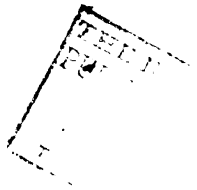

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SECTION OF WINGS

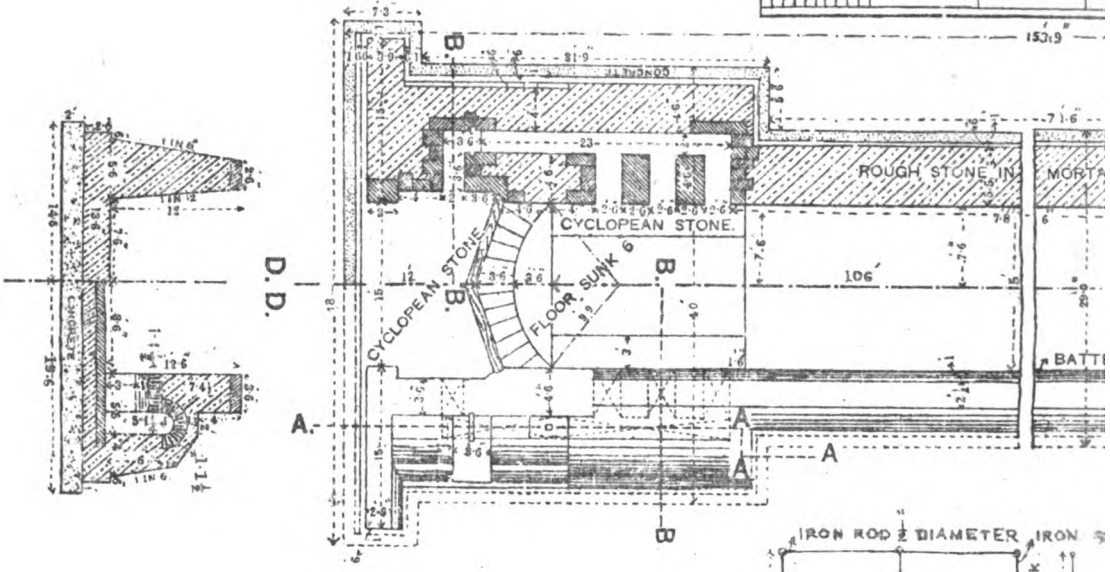
GUMMAMPAD LOCK (

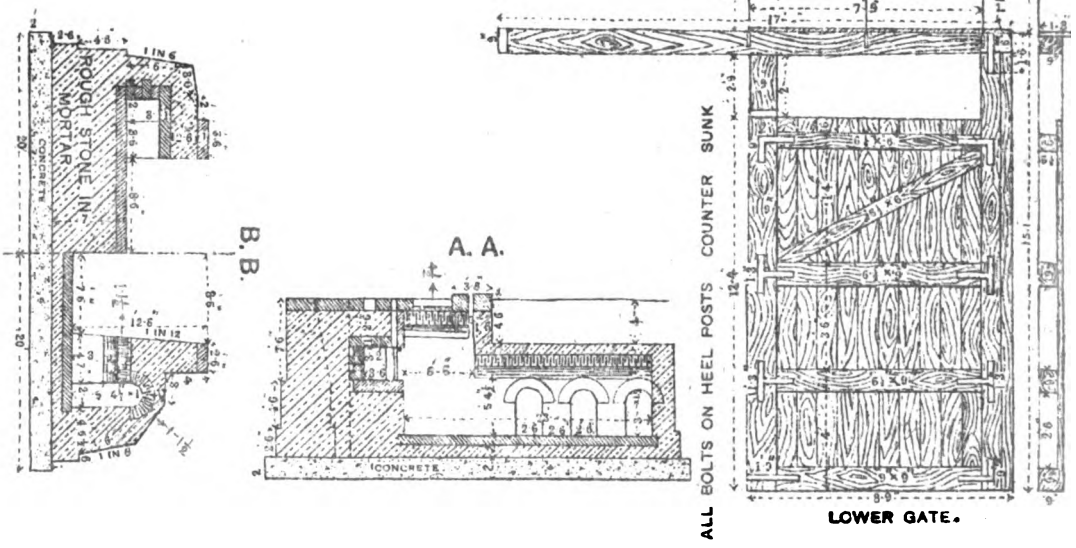
ATTILI CANA

WESTERN DE

Scale

0 5 10 20 30





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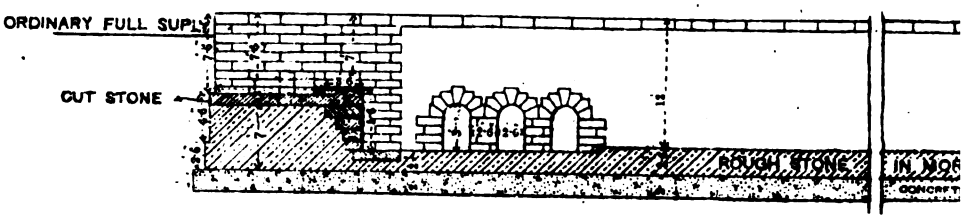

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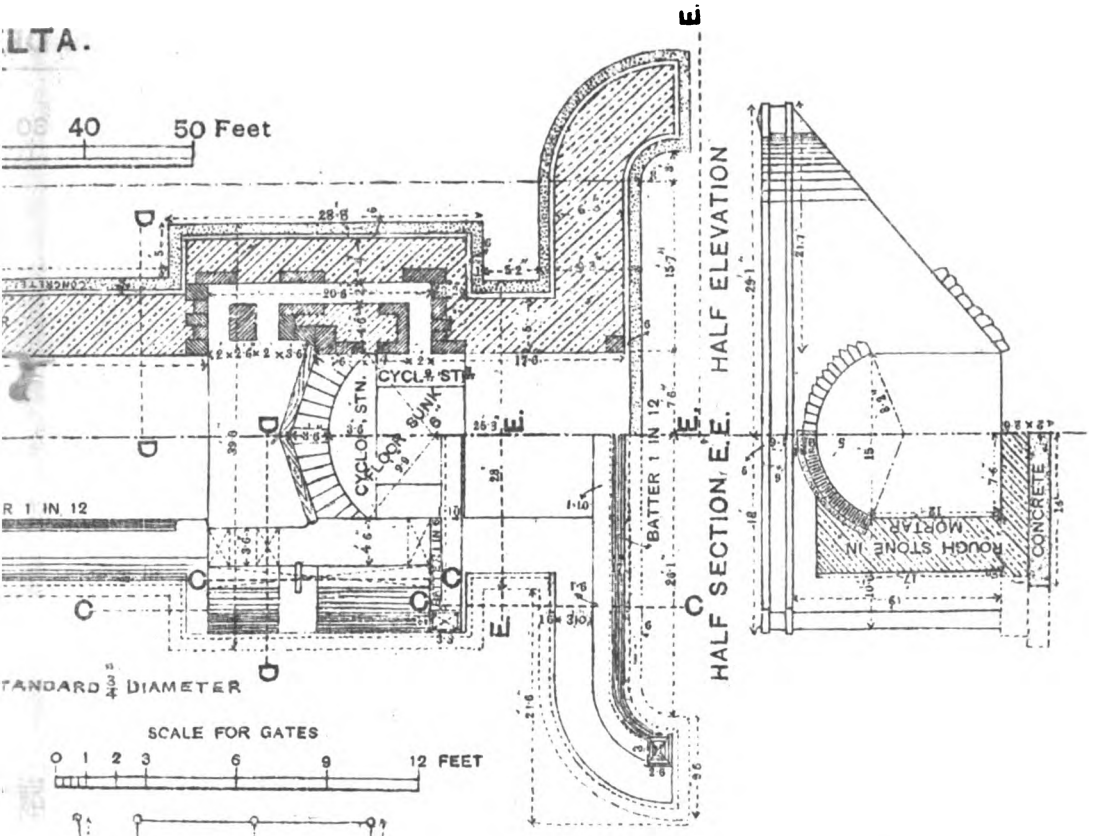

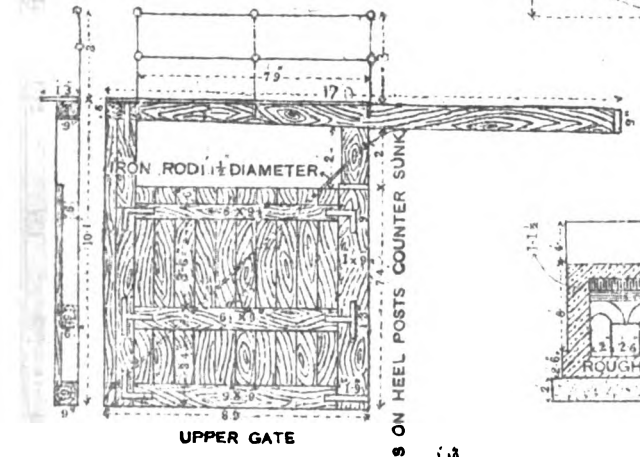

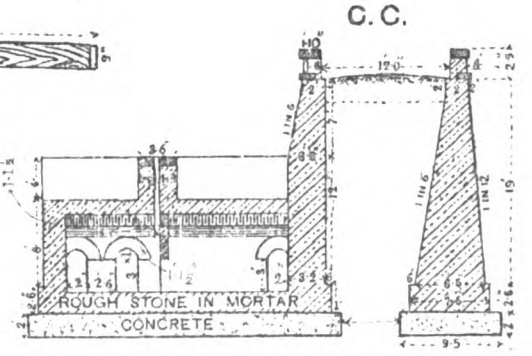

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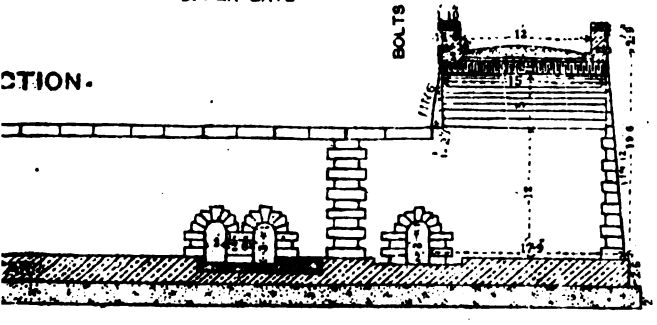

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1896

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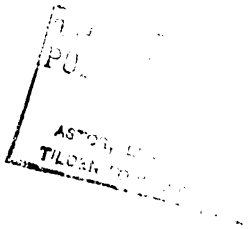

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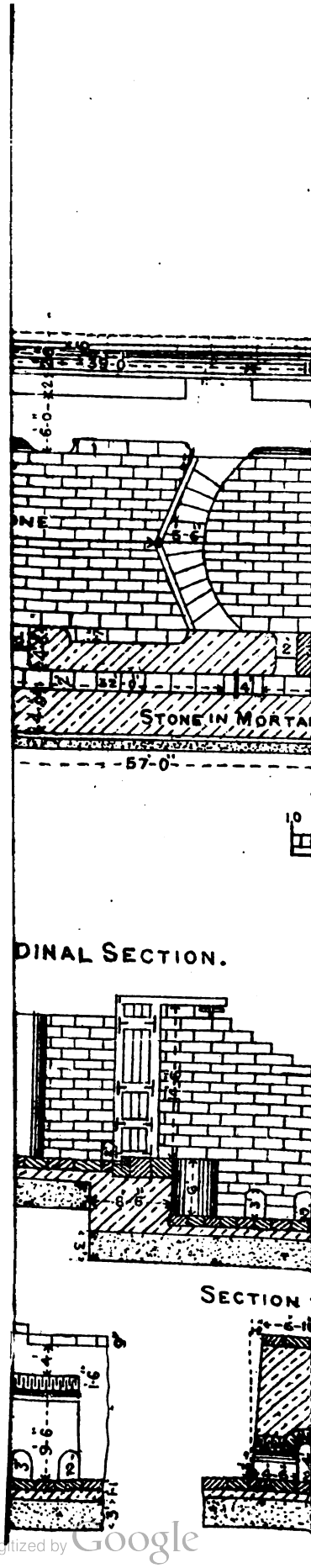

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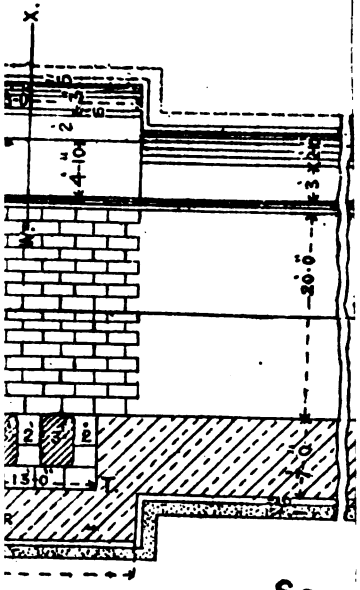
DOUBLE LOCK AT
JUNCTION
WESTERN

ACTUAL COST



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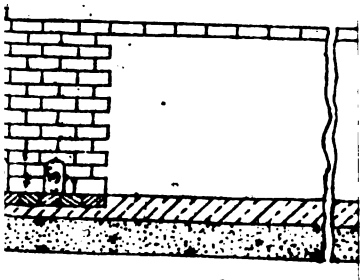

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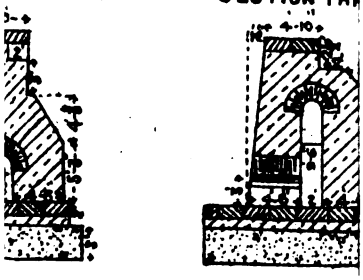
SECTION THR



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ASTOR, LENOX AND
TILDEN FOUNDATIONS.

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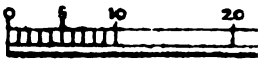
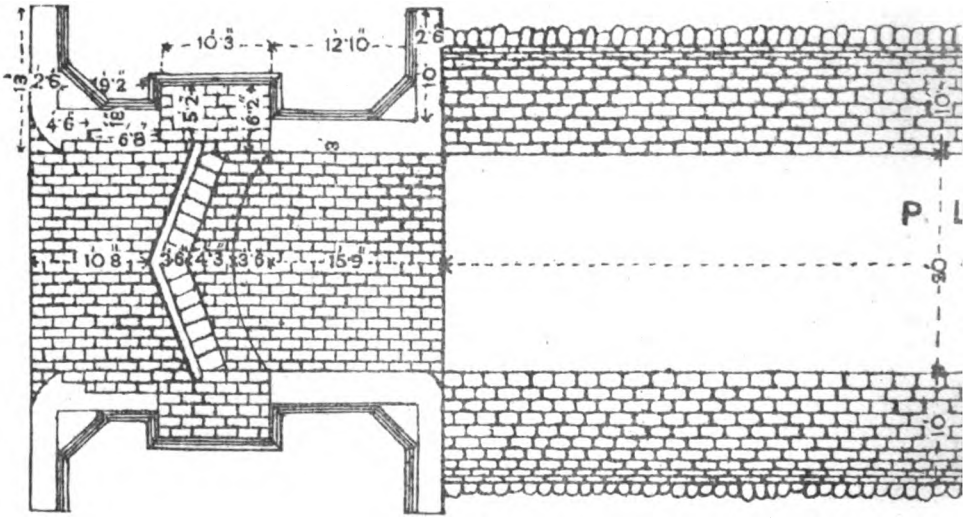
CHINAKAPAVARA

VENKIA - W

WESTE





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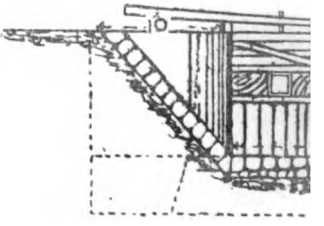

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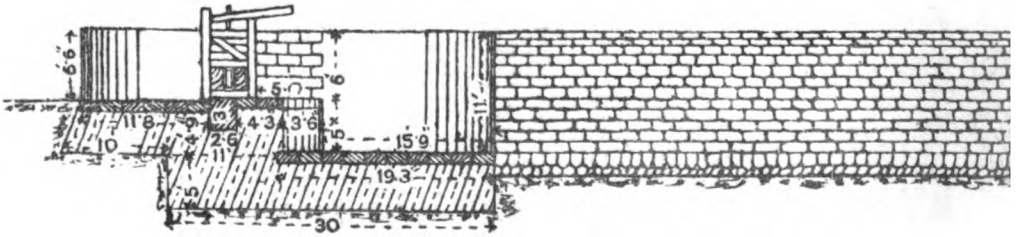

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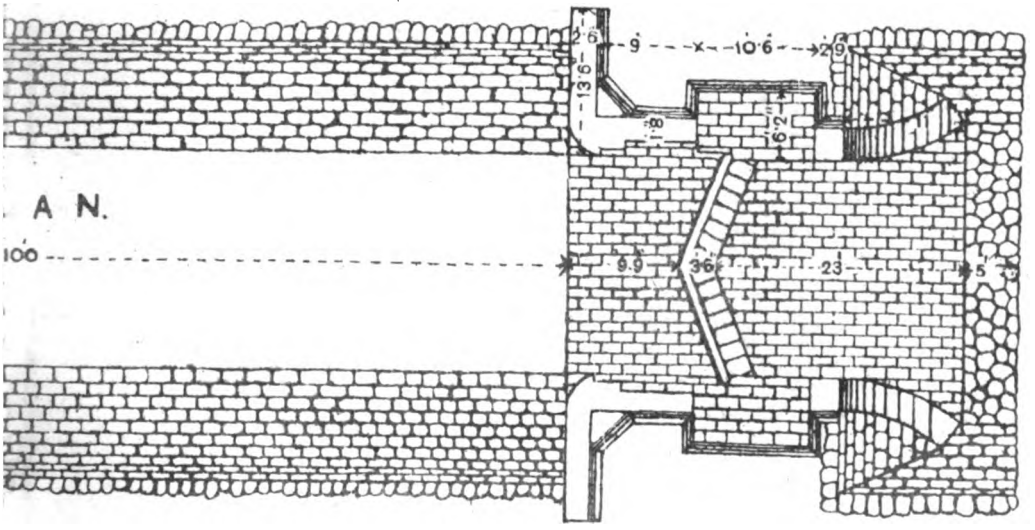
M LOCK (OLD STYLE.)

EYERU CANAL.

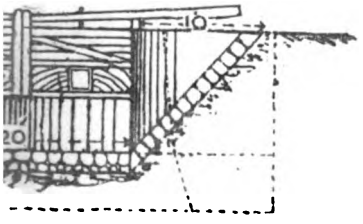
RN DELTA.

Scale

30 40 50 Feet



SE SECTION



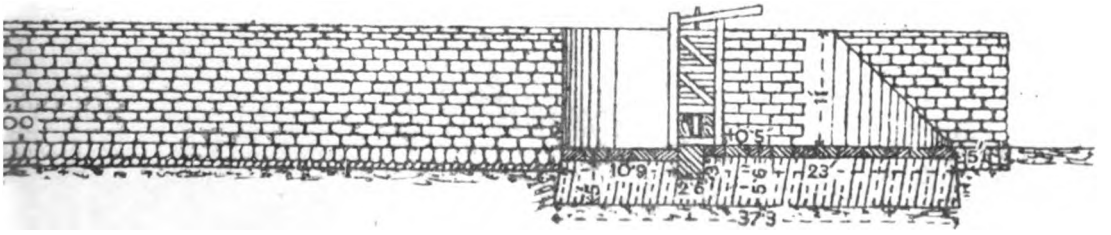
REFERENCE

Rough Stone in Mortar

Cut Stone work

Rough Stone work

AL SECTION



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1896

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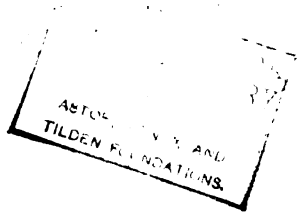
TILDEN FOUNDATIONS.

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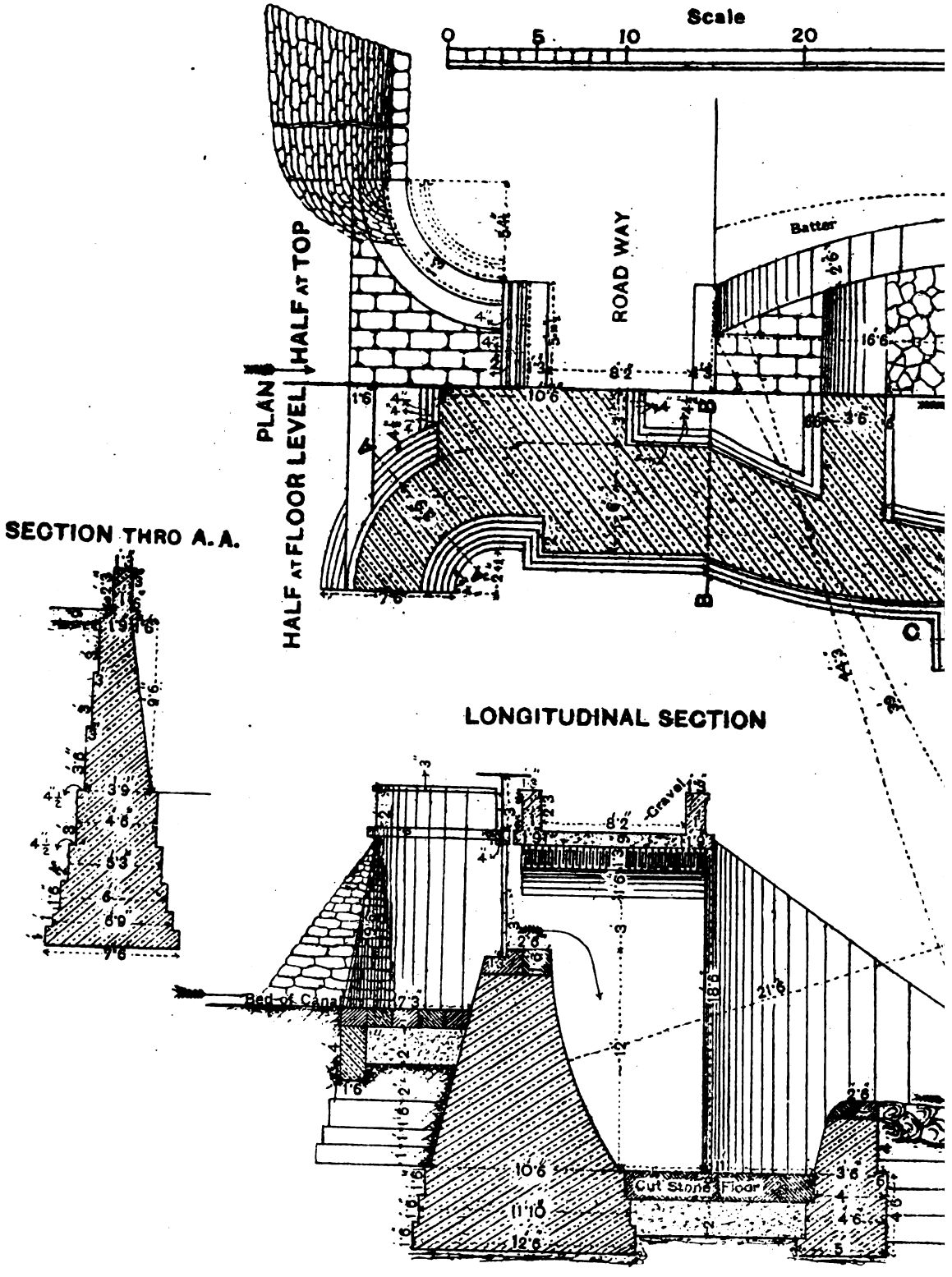
LOCK WEIR AT SAMALKOT.
EASTERN DELTA.



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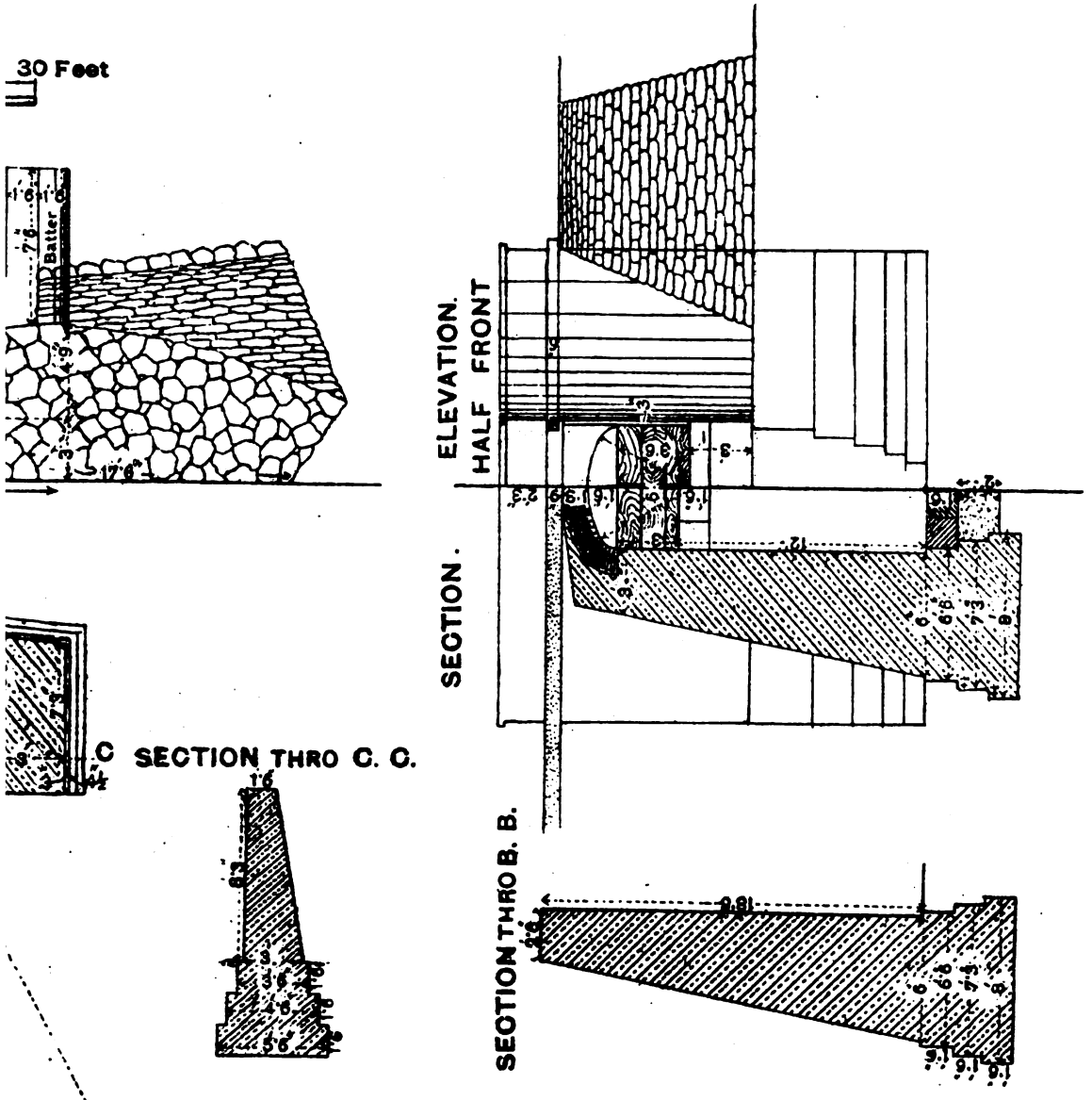

REFERENCE

- Concrete
- Rough Stone in Mortar
- Brick in Chunam (Arch Work)
- Cut Stone Work
- Rough Stone Revetment

Photo-Zinco Survey Office, Madras.
1896

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ASTOR, LENOX
TILDEN FOUND

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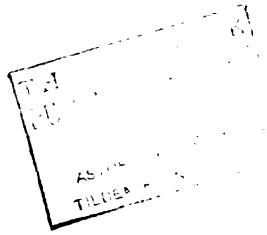

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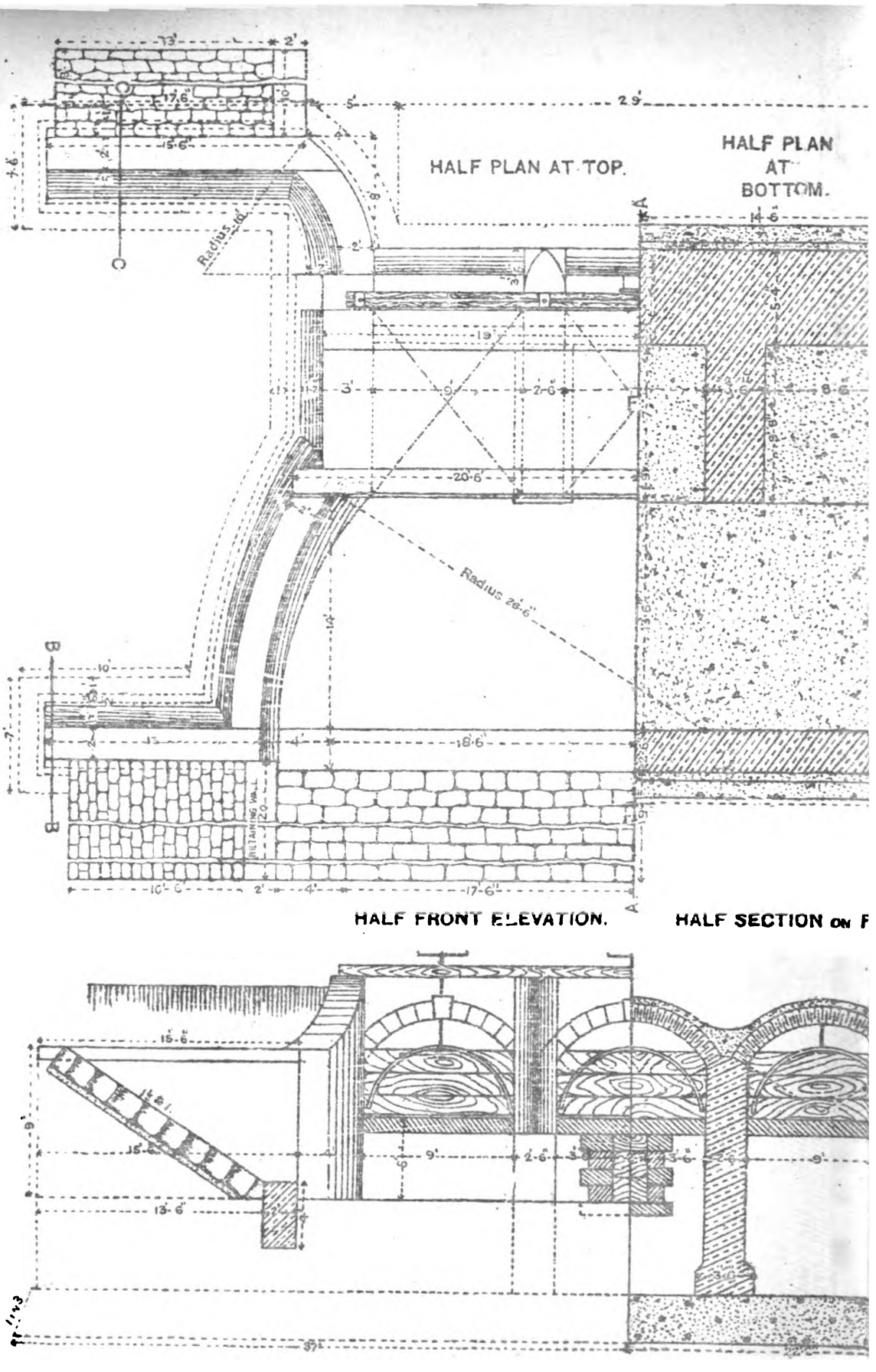

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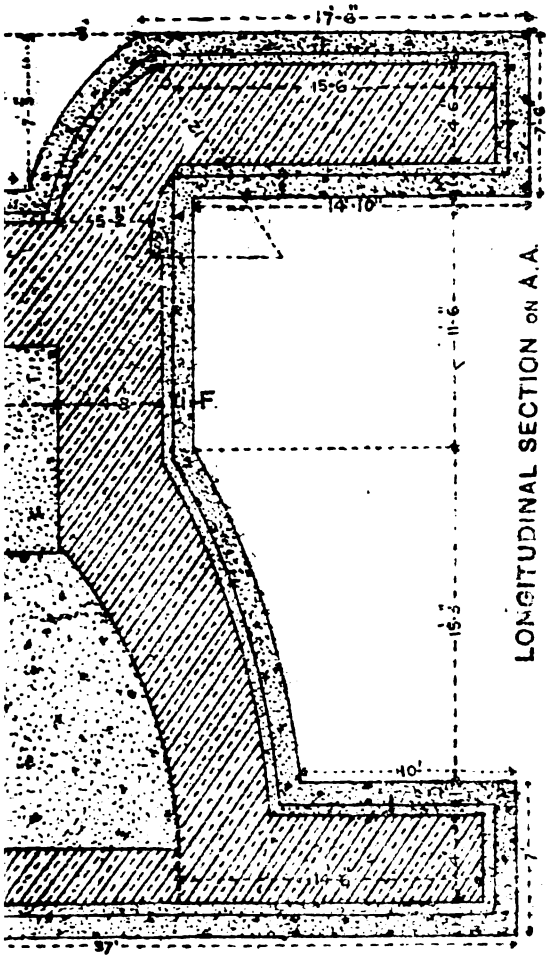
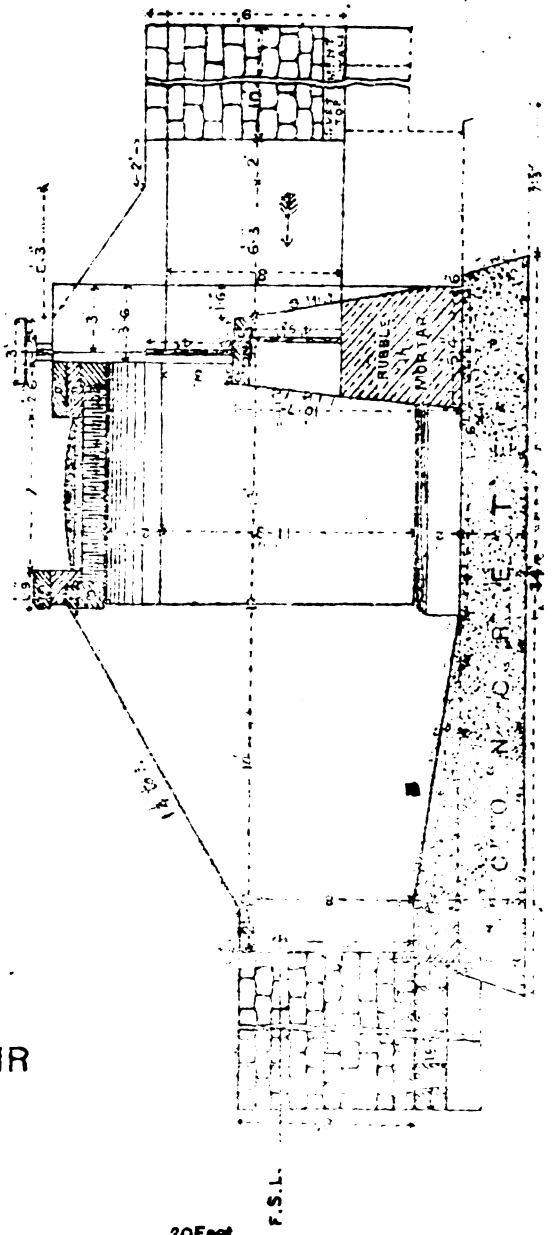


LONGITUDINAL SECTION ON A.A.



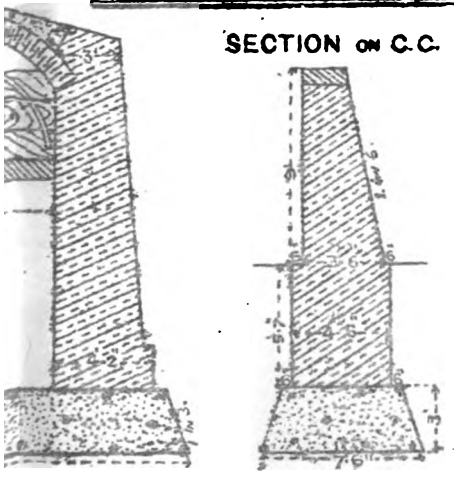
LOLLA LOCK WEIR
BANK CANAL.
CENTRAL DELTA.

F.F.

Scale

10 9 8 7 6 5 4 3 2 1 0 10 20 Feet

SECTION ON C.C.



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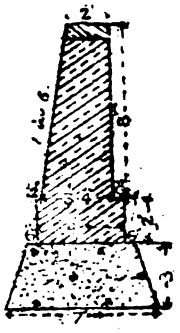

REFERENCE

- Concrete
- Rubble in Mortar
- Cut Stone
- Arch work (Brick in Mortar)
- Rough Stone

1896

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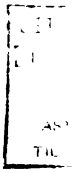

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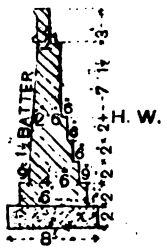

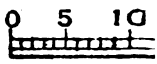

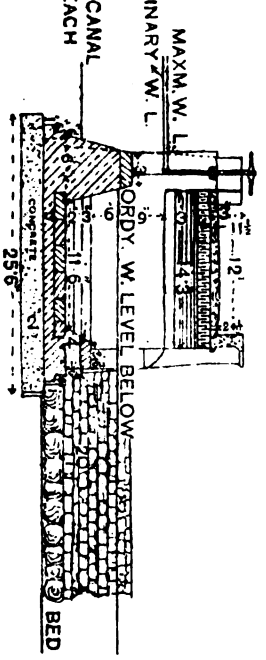

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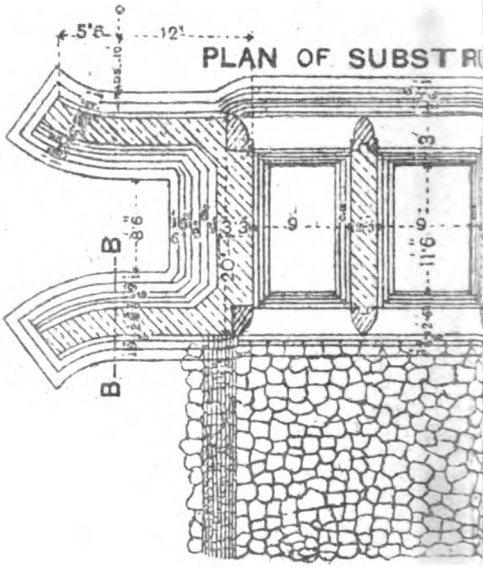

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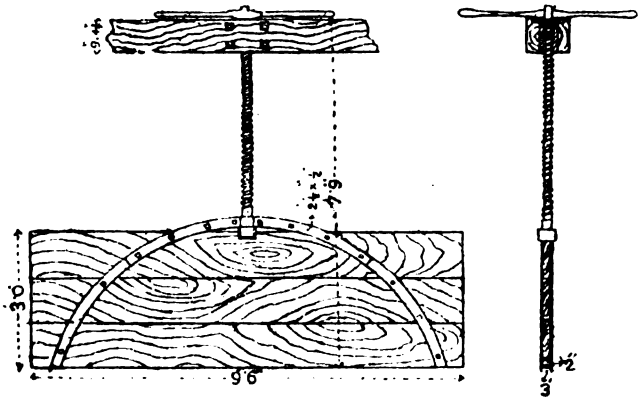
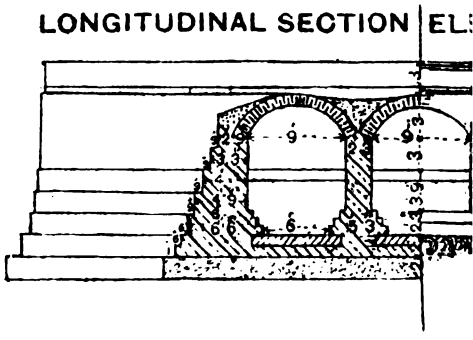
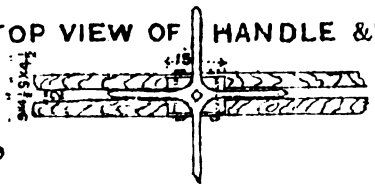




TOP VIEW OF HANDLE &c



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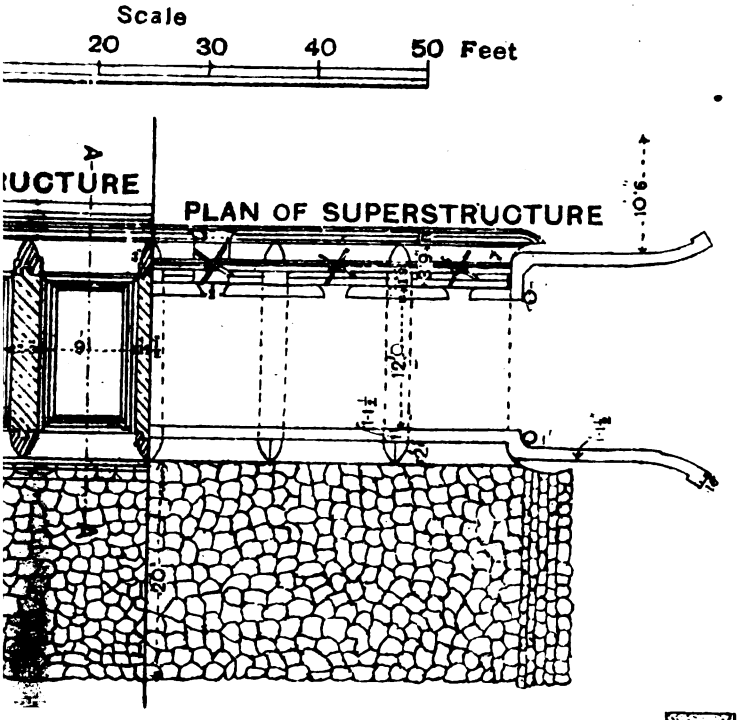
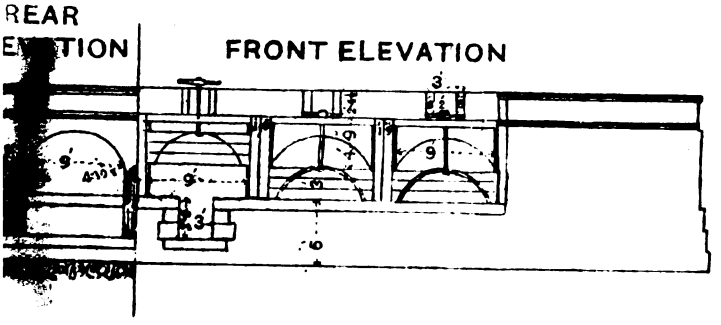
WESTERN DELTA.



REFERENCE.

- Concrete
- Rough Stone in Mortar
- Brick in Mortar (Arch work)
- Cut Stone Work
- Rough Stone Work



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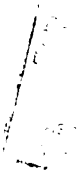

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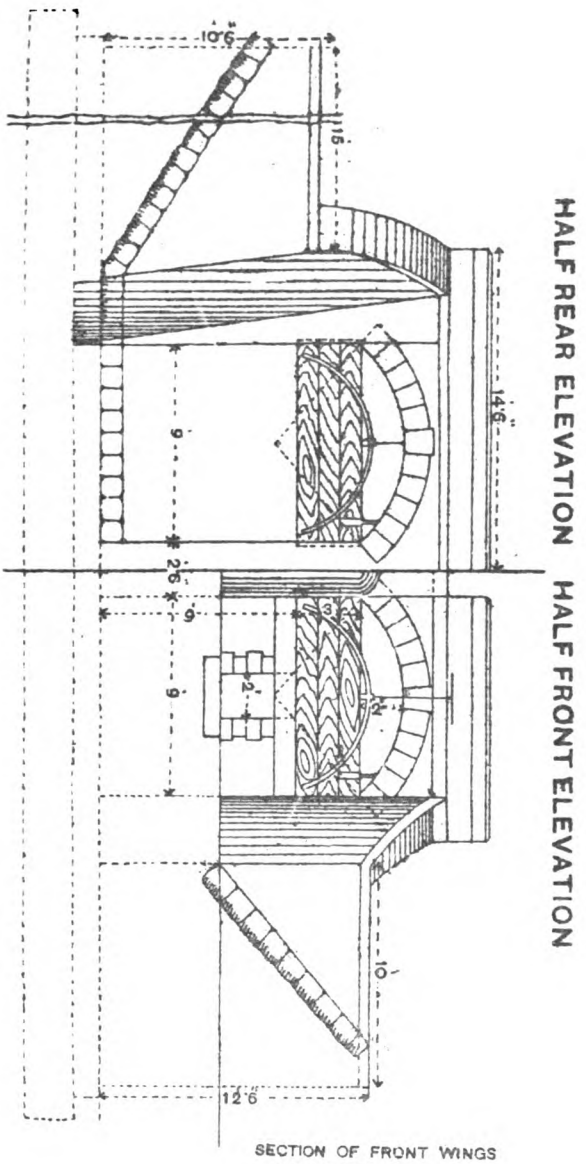

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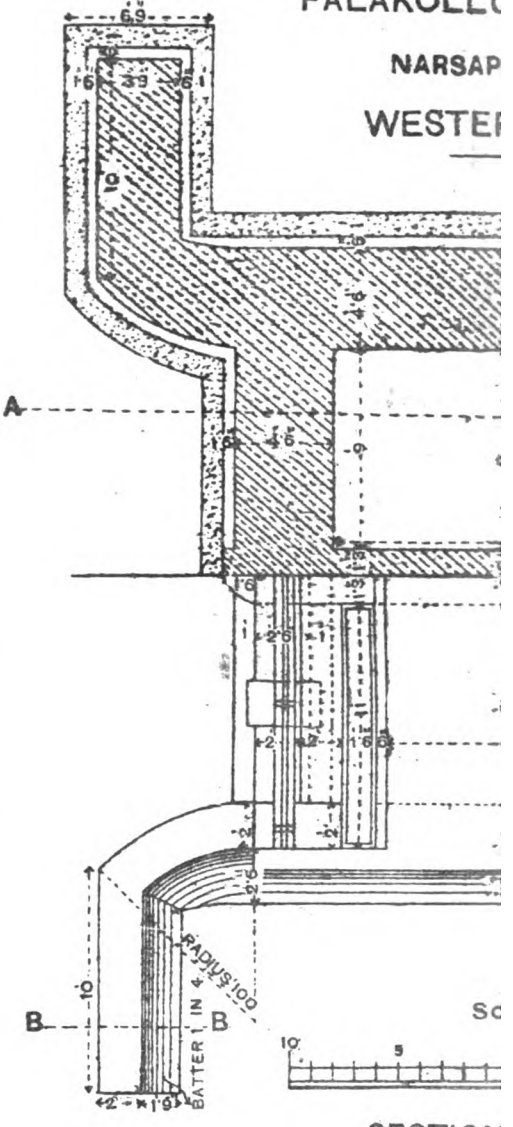
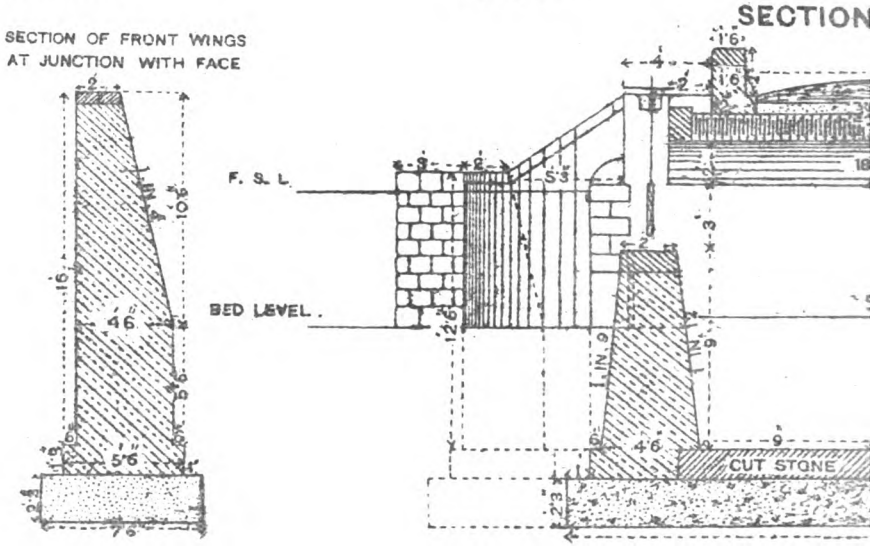
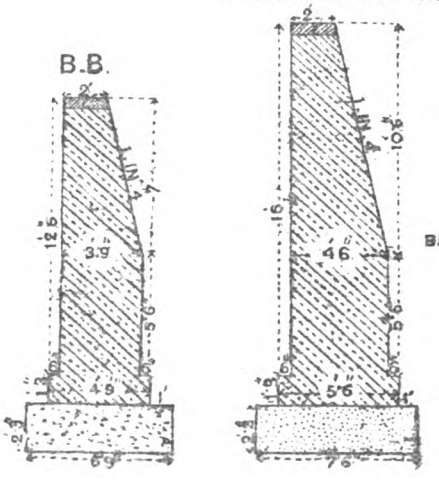


SECTION



SECTION OF FRONT WINGS AT JUNCTION WITH FACE



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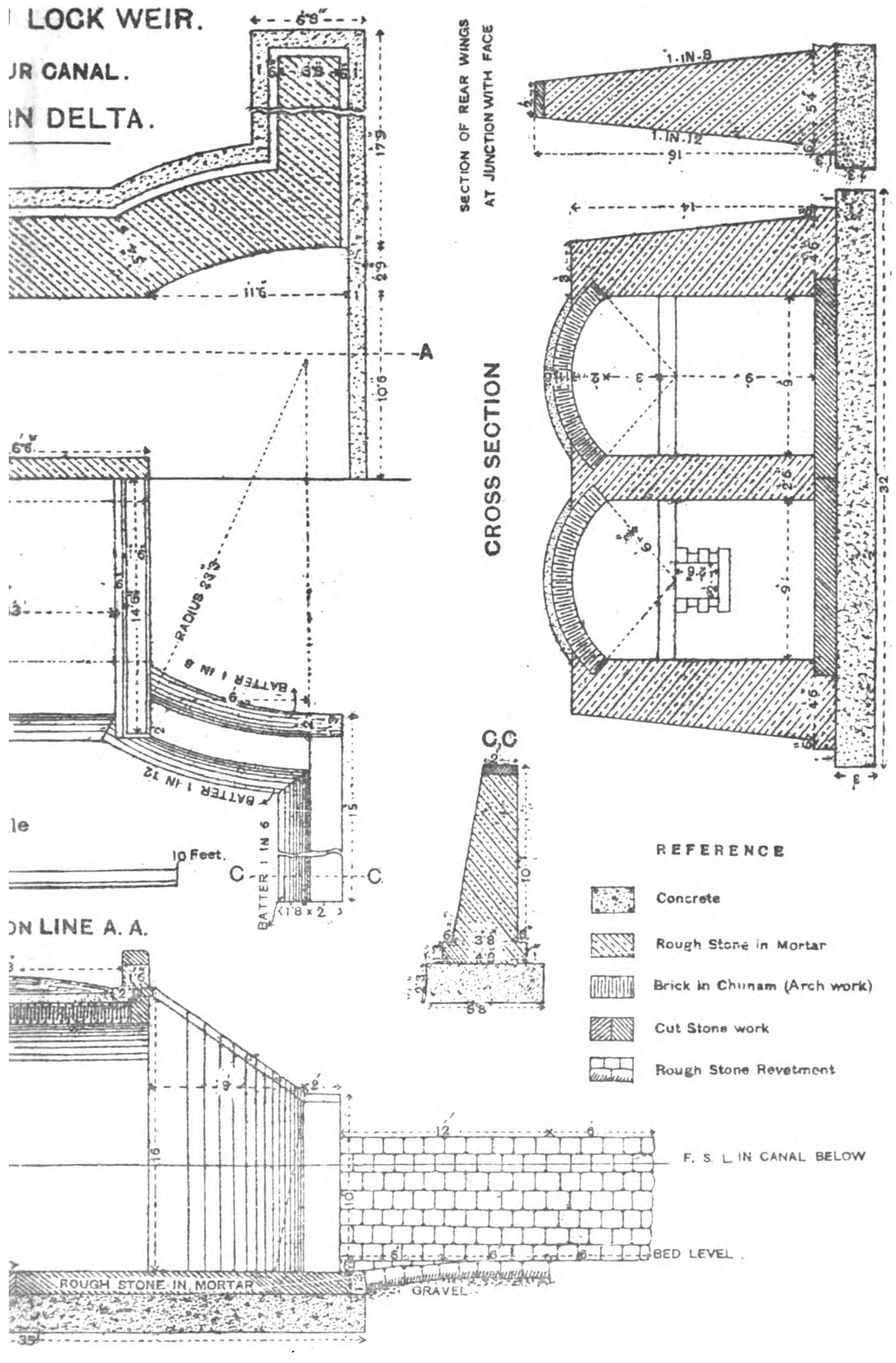

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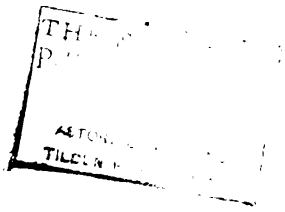

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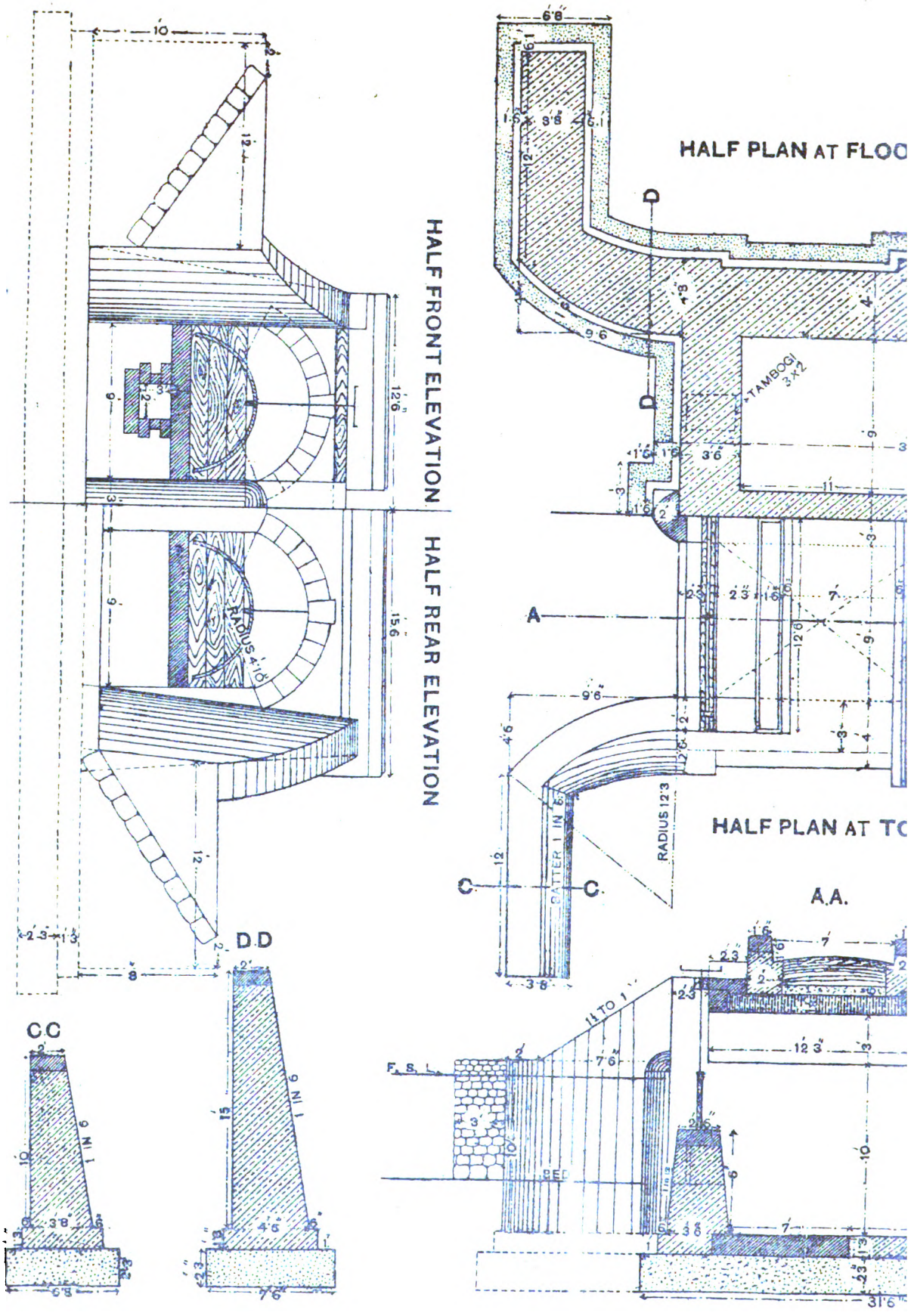

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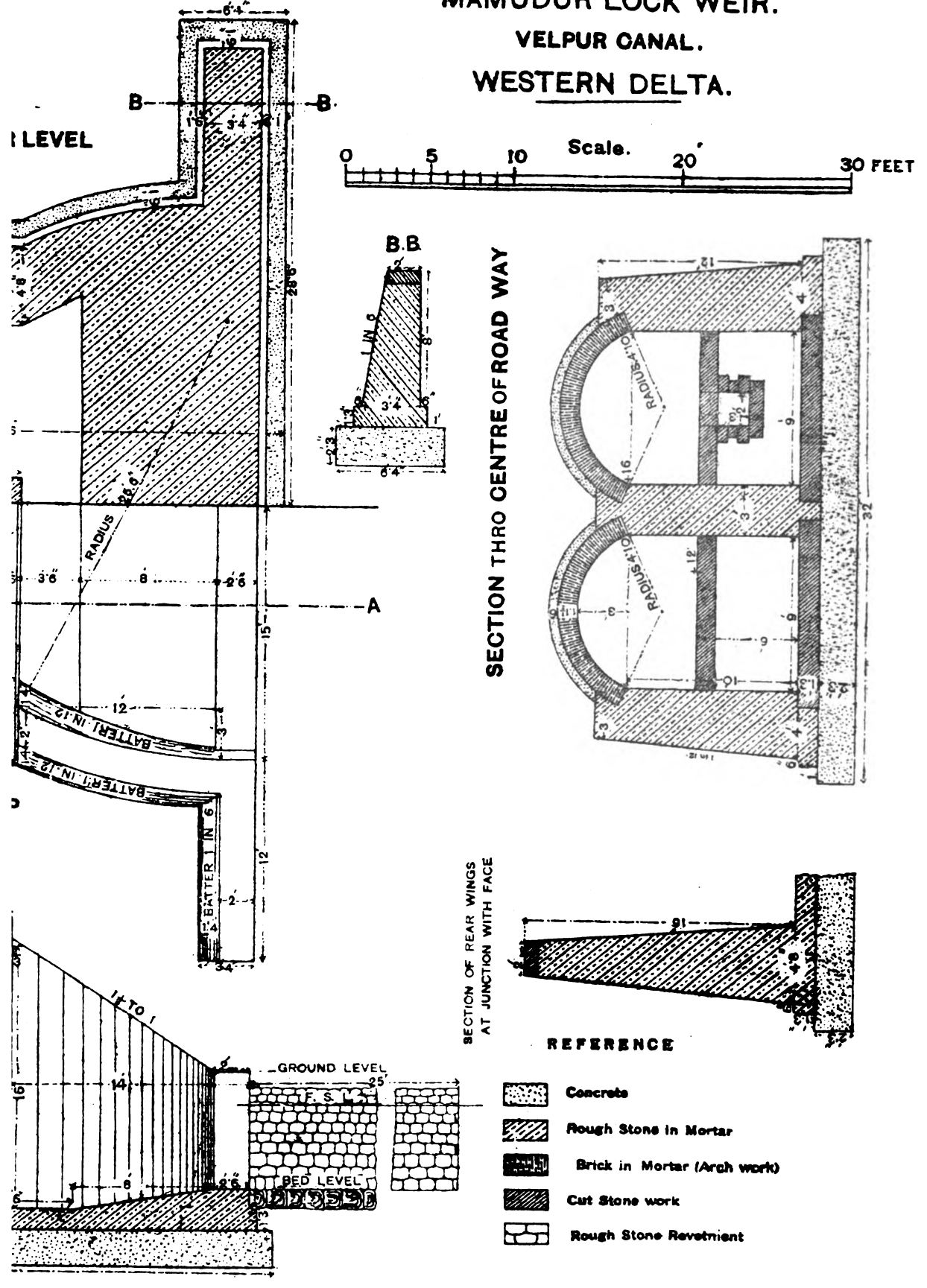
VELPUR CANAL.

WESTERN DELTA.



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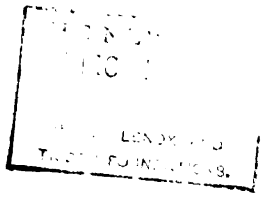

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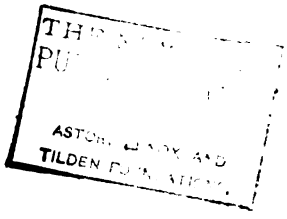
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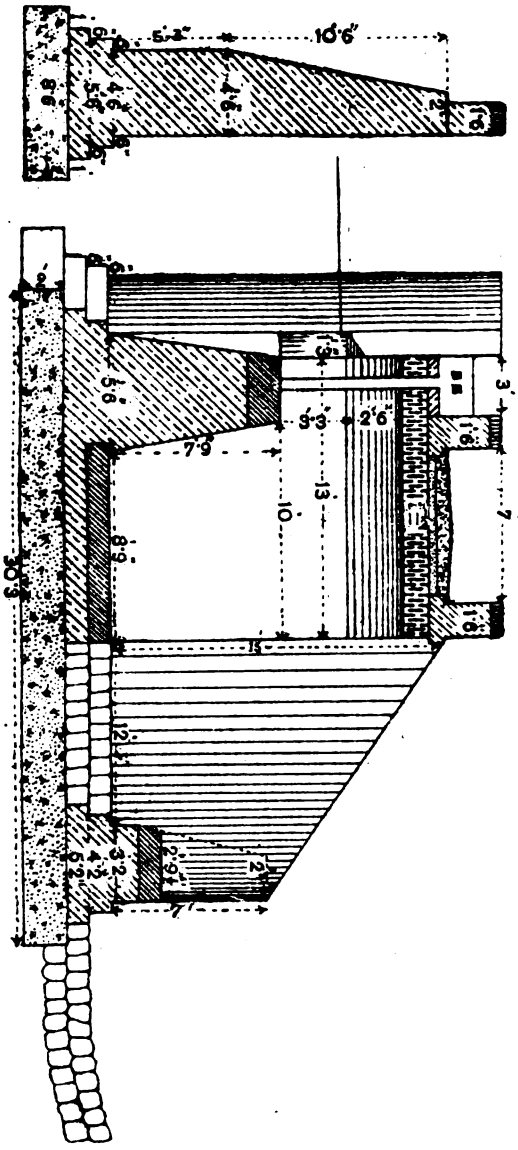

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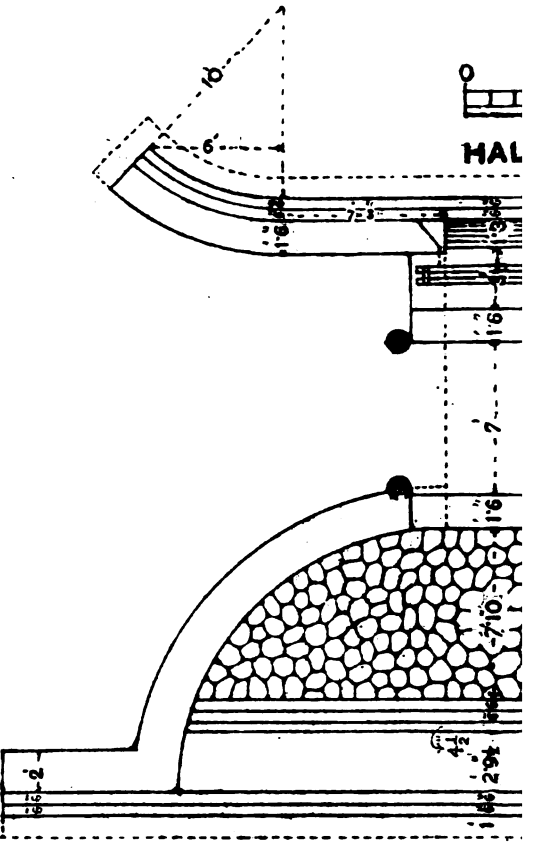

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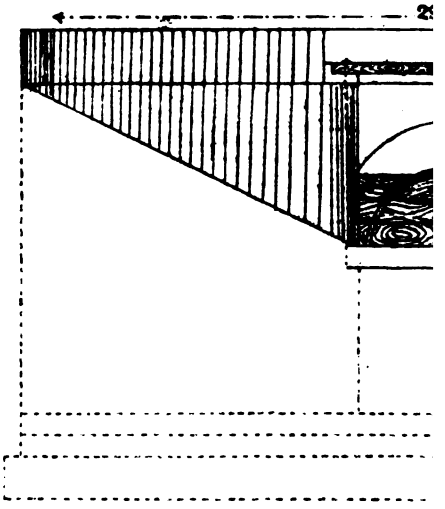

REFERENCE

- Concrete
- Rough Stone in Mortar
- Brick in Mortar (Arch work)
- Brick on Edge
- Cut Stone work
- Rough Stone work

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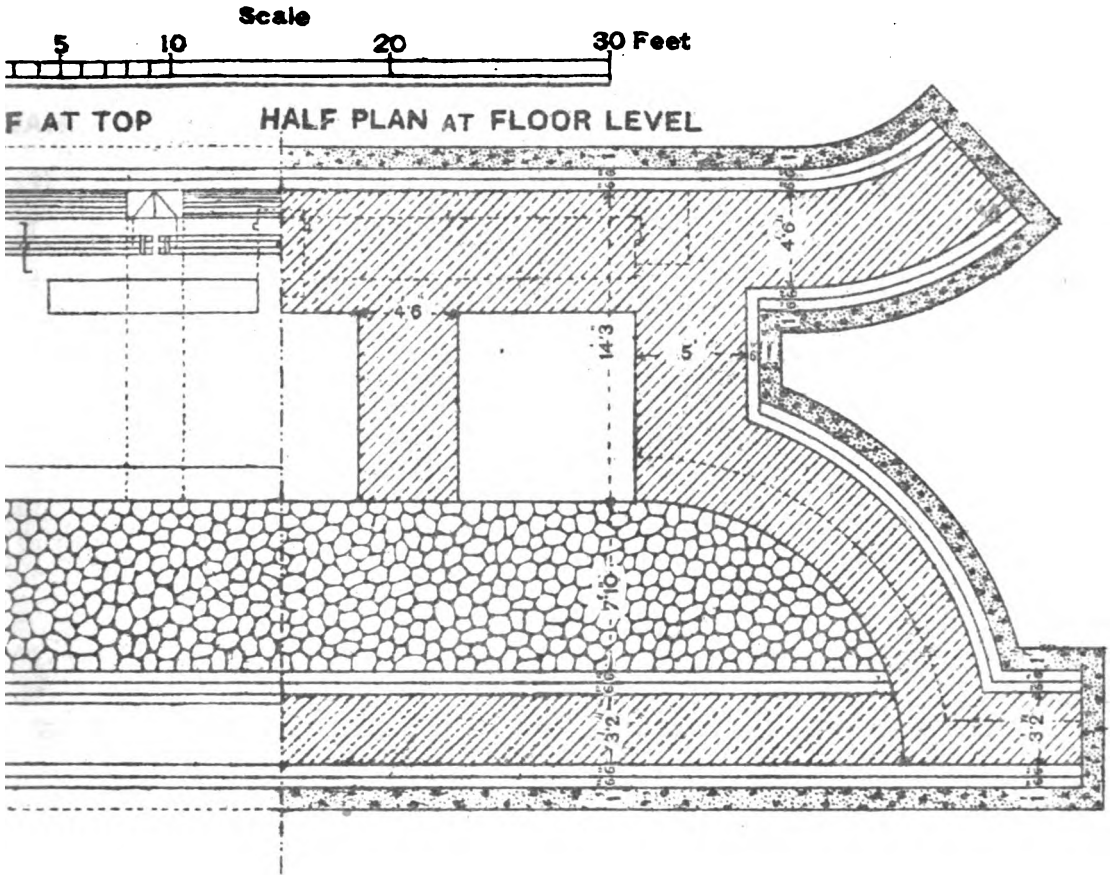
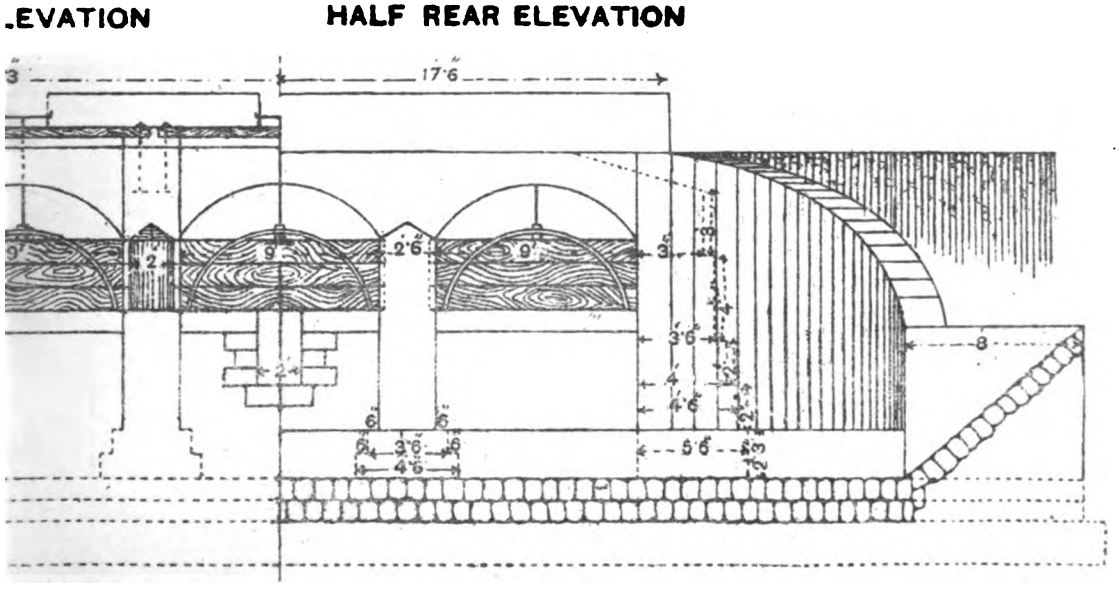
WESTERN DELTA.





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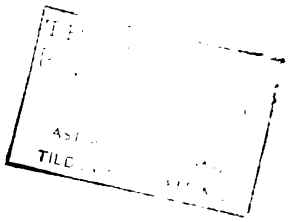

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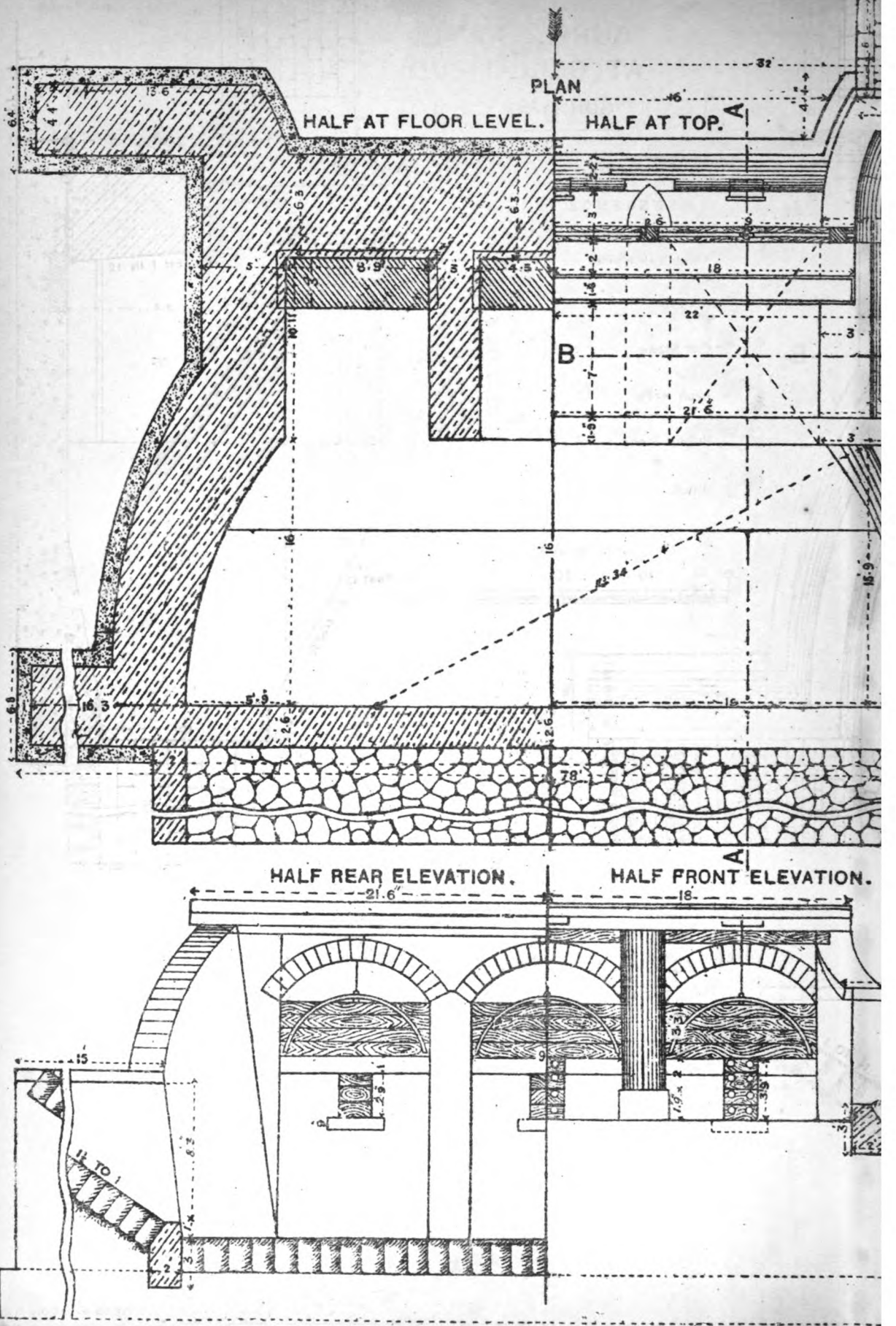

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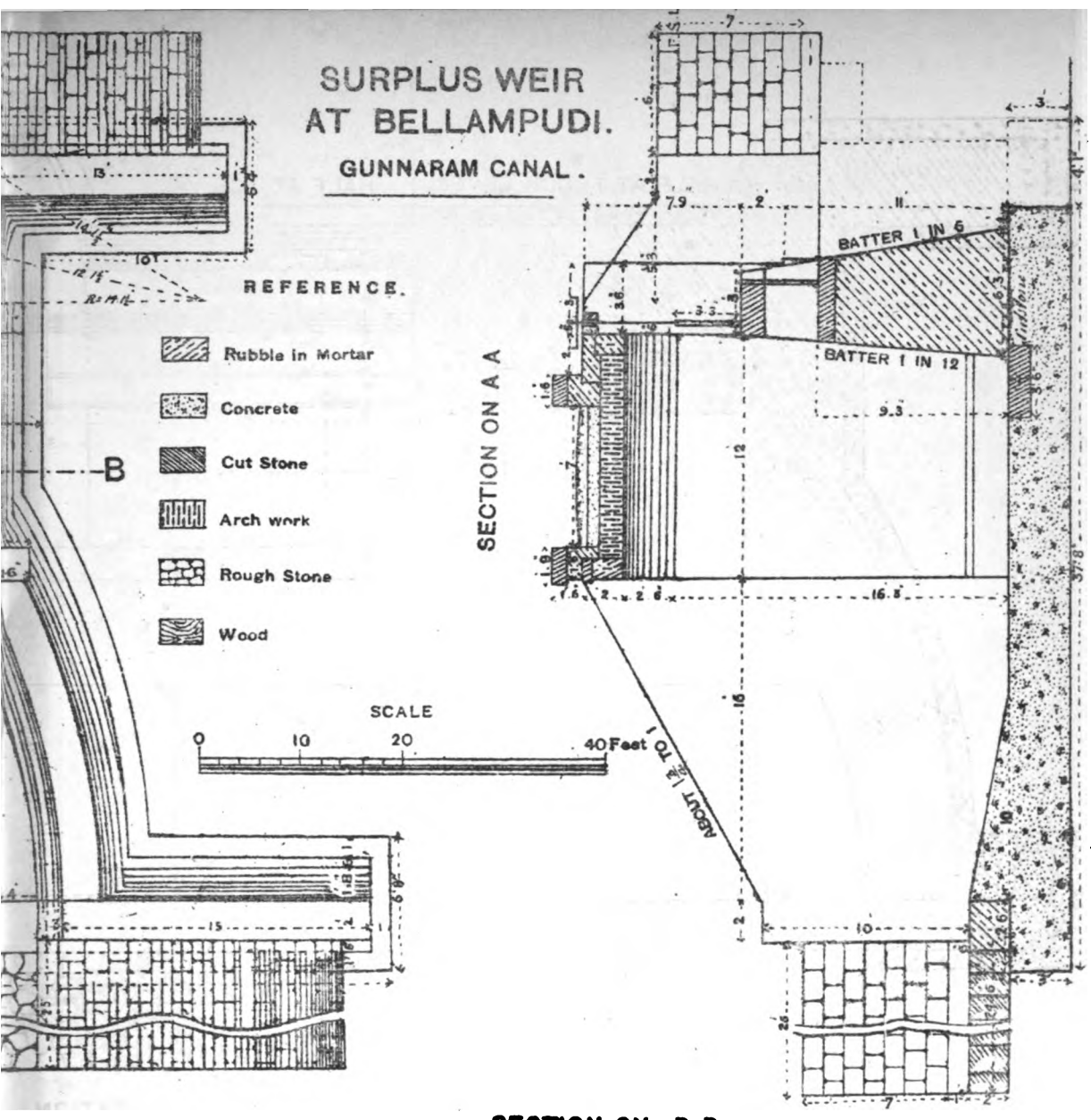

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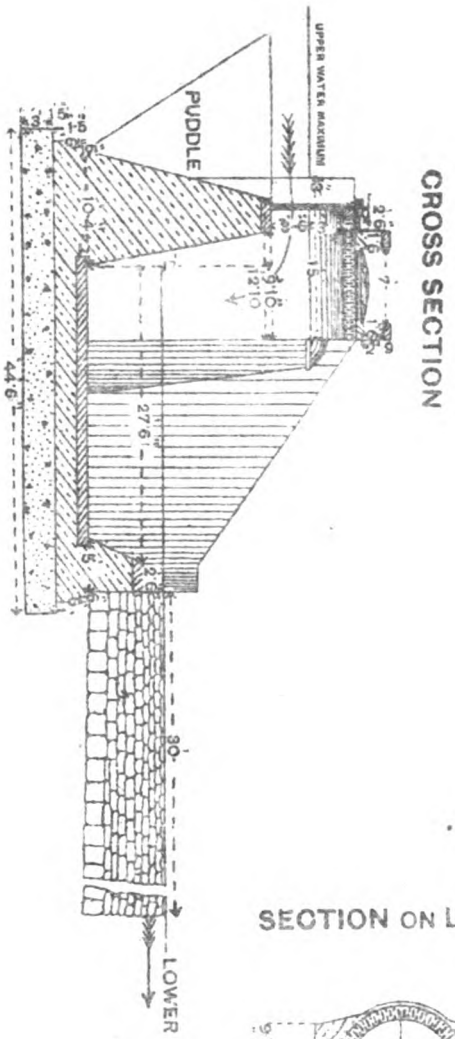

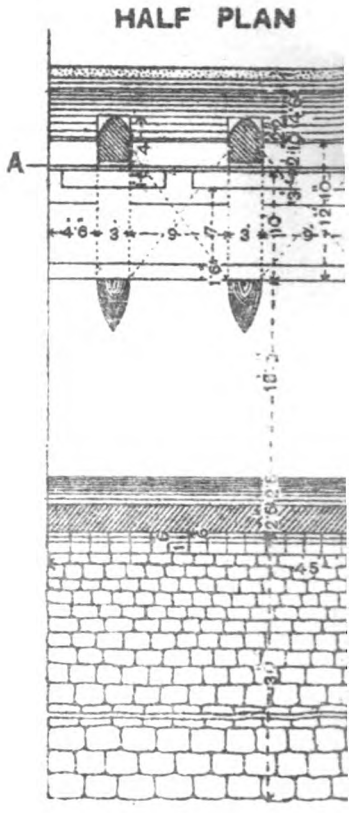

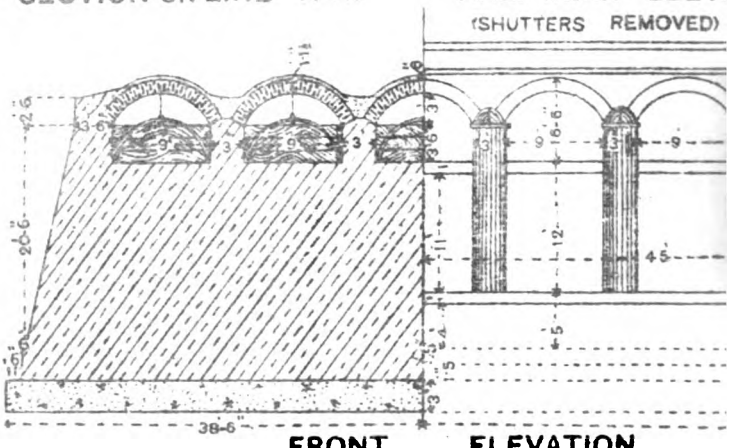

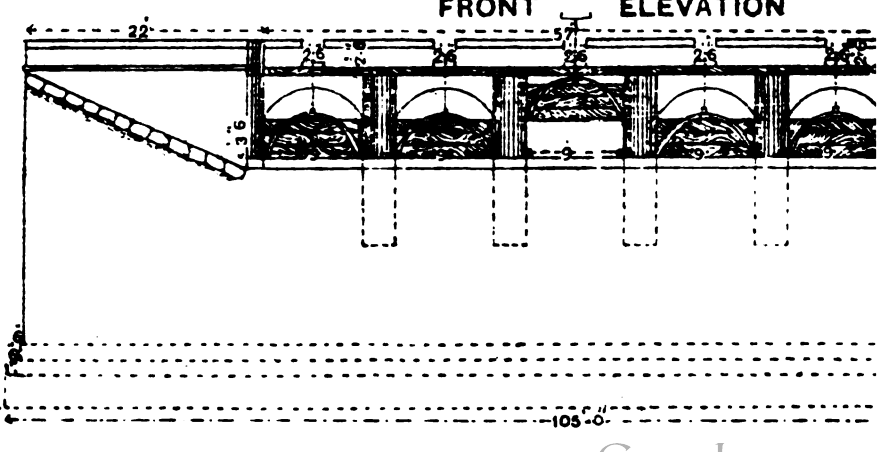

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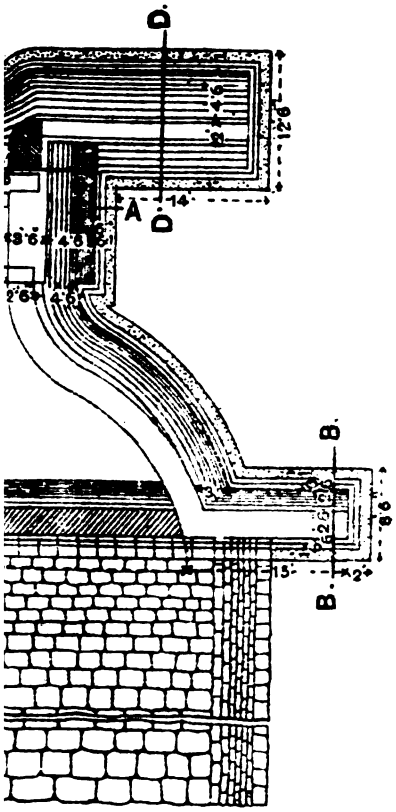

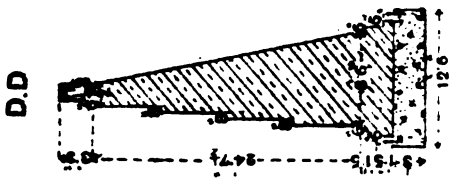

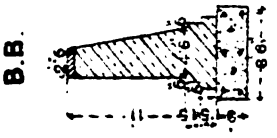

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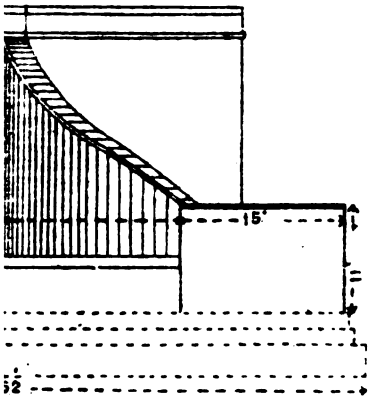

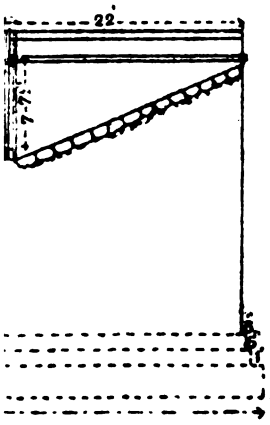

NANDAMUR SURPLUS WEIR.

ELLORE CANAL.

WESTERN DELTA.

Scale

10 5 0 10 20 30 40 50 Feet

REFERENCE

- Concrete
- Rough Stone in Mortar
- Cut Stone
- Brick in Chunam (Arch work)
- Revetments and apron

Actual cost Rs. 11,697

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Scale

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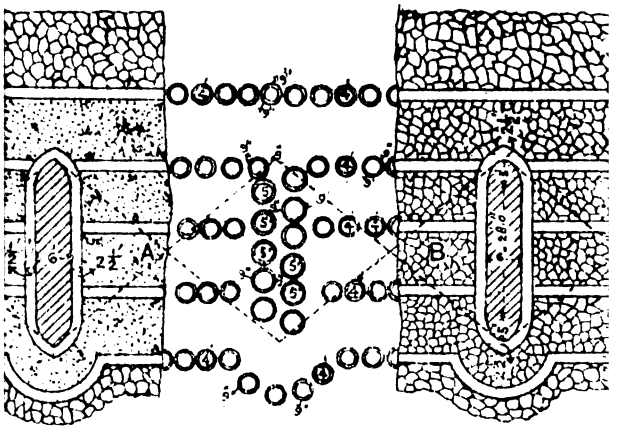

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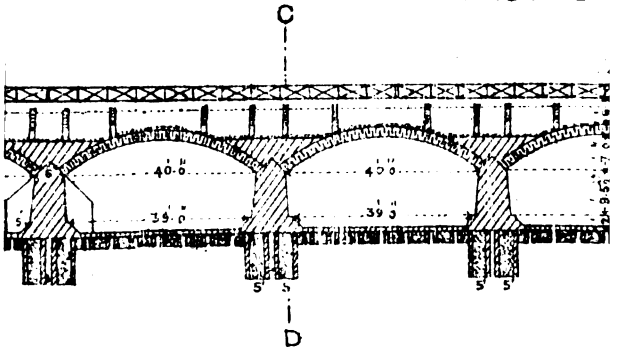

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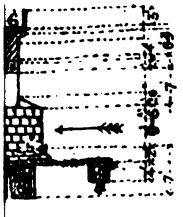

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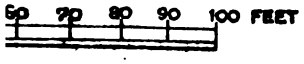

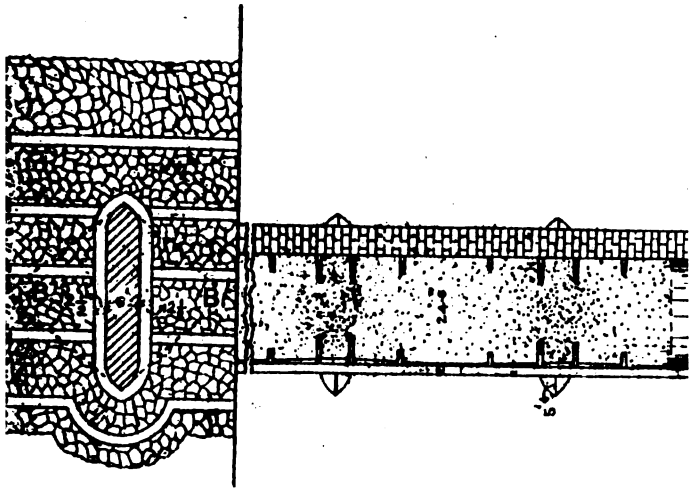

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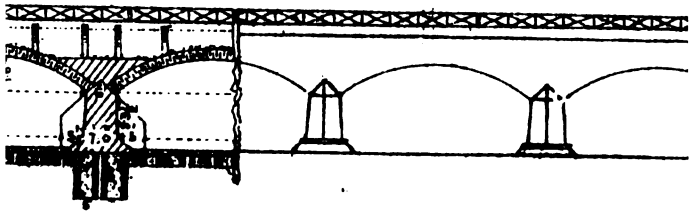

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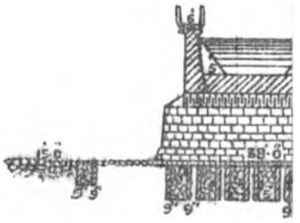

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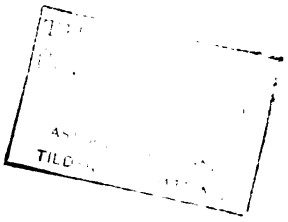

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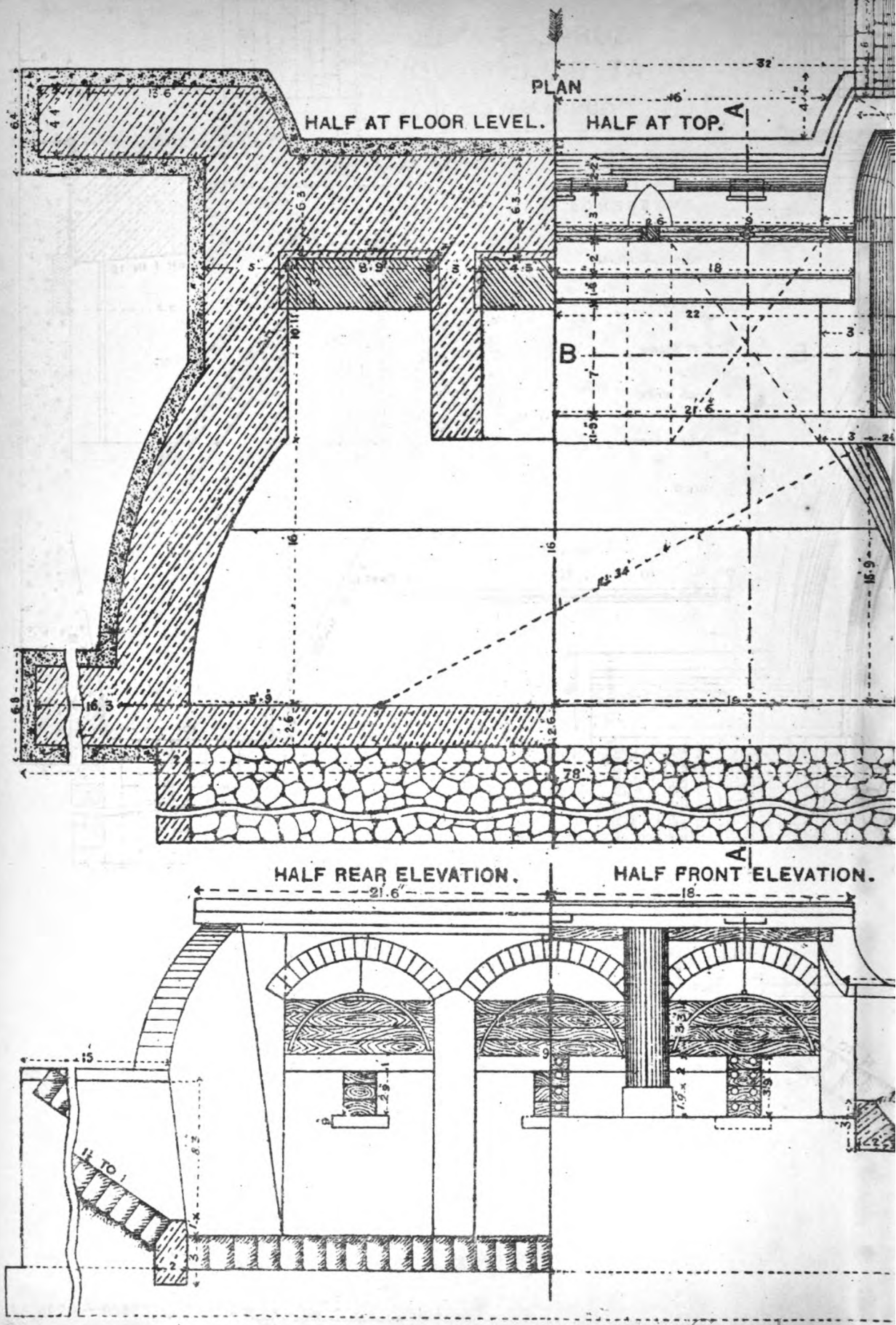

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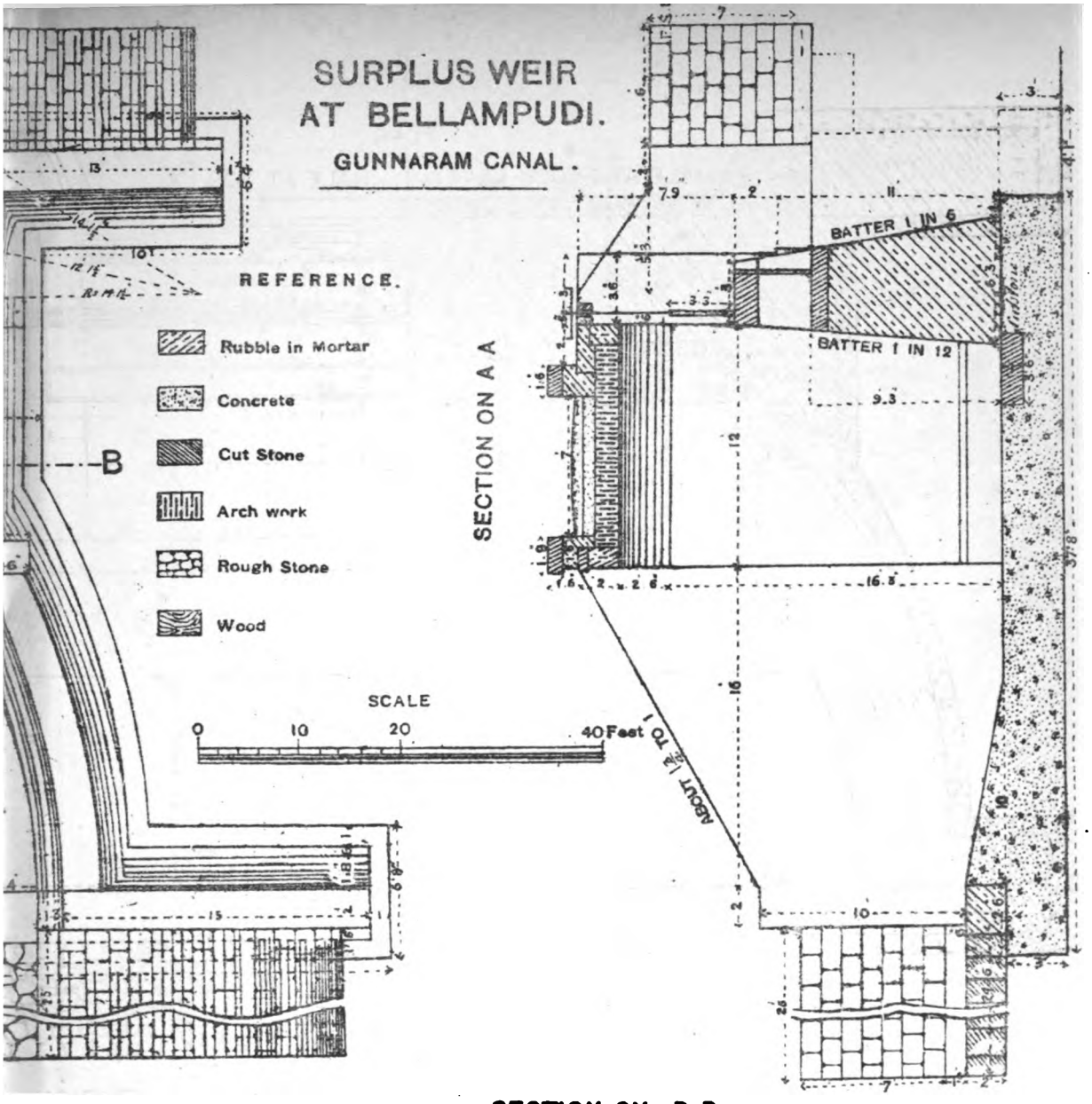
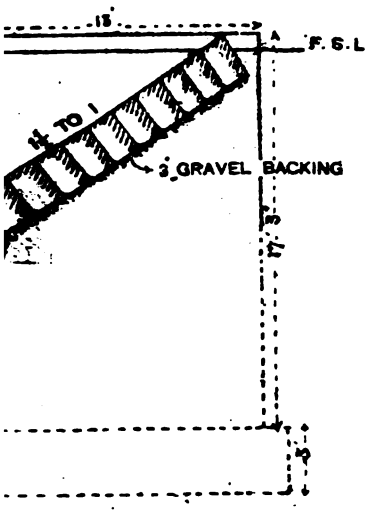


SECTION ON B.B.



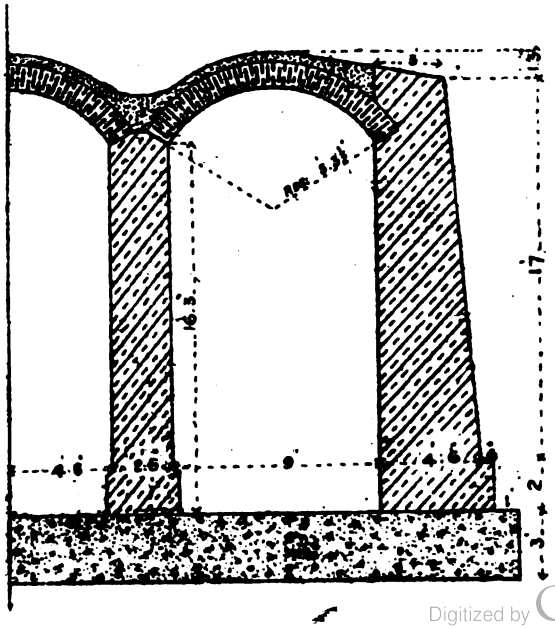


Photo-Zinco., Survey
1896
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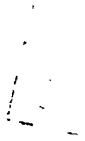

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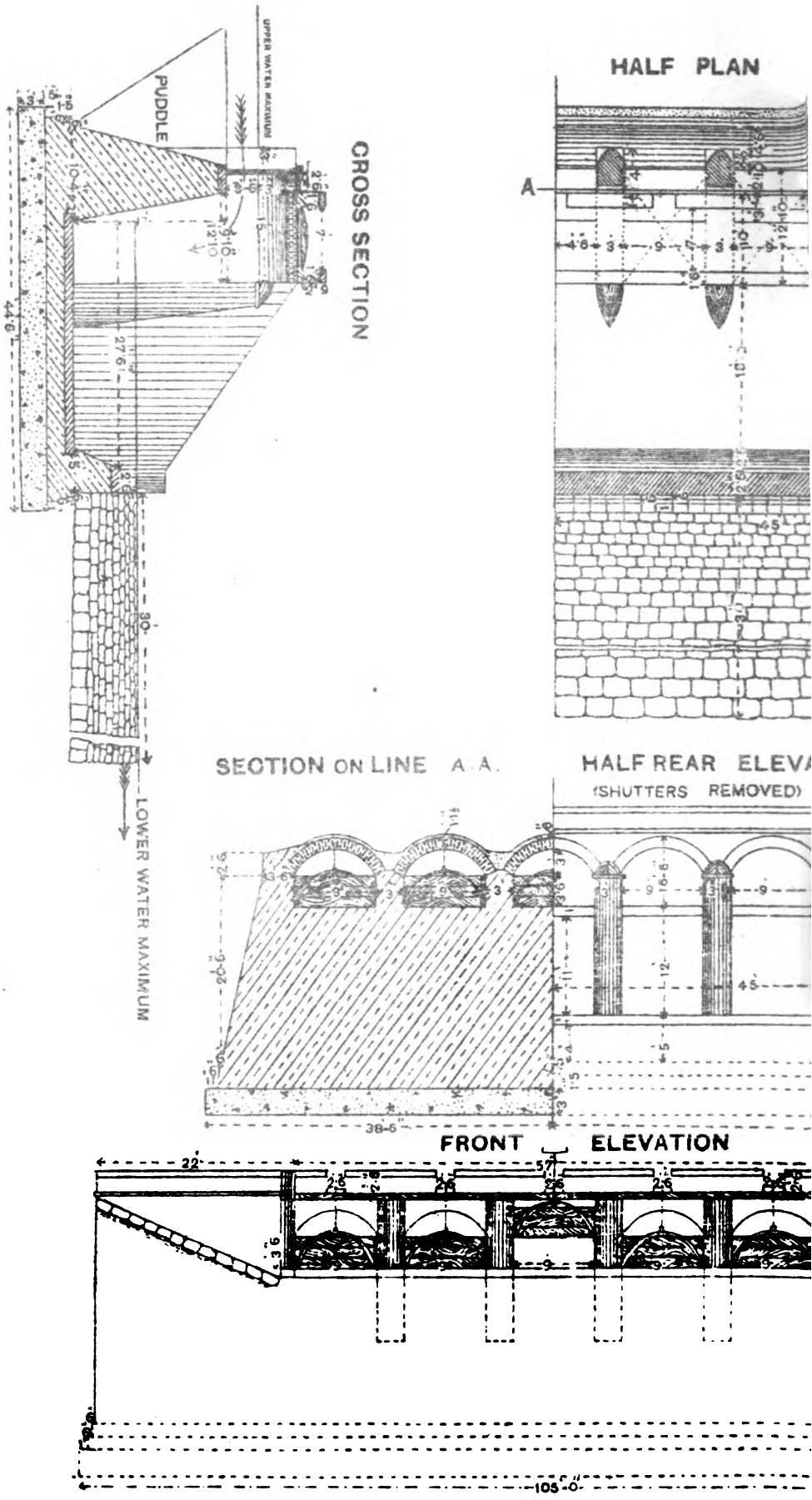

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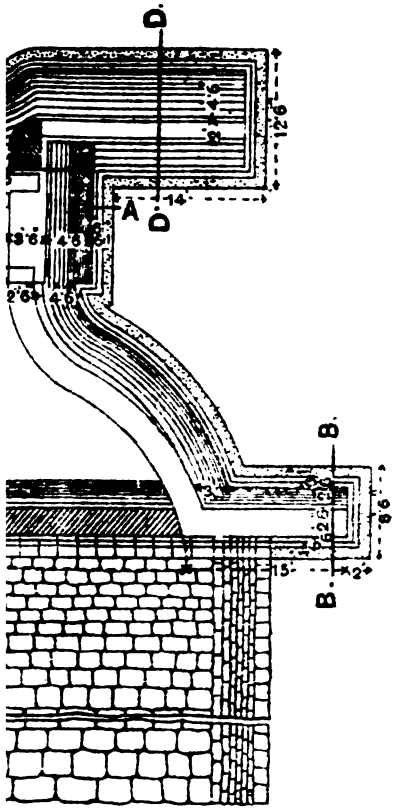

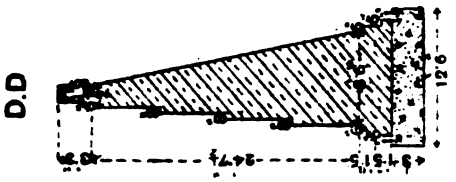

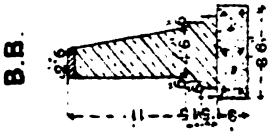

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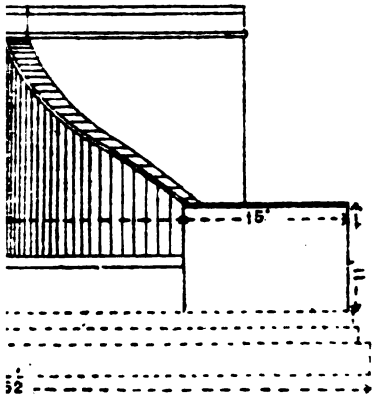

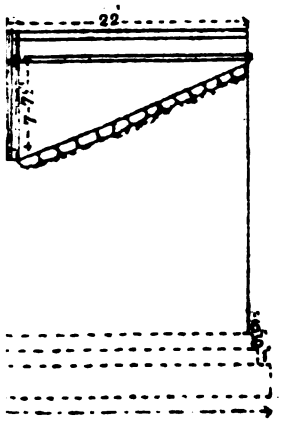

NANDAMUR SURPLUS WEIR.

ELLORE CANAL.

WESTERN DELTA.

Scale

10 5 0 10 20 30 40 50 Feet

REFERENCE

- Concrete
- Rough Stone in Mortar
- Cut Stone
- Brick in Chunam (Arch work)
- Revetments and apron

Actual cost Rs. 11,697

PHOTO-ZINCO. SURVEY OFFICE MADRAS

1896

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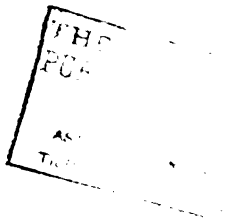

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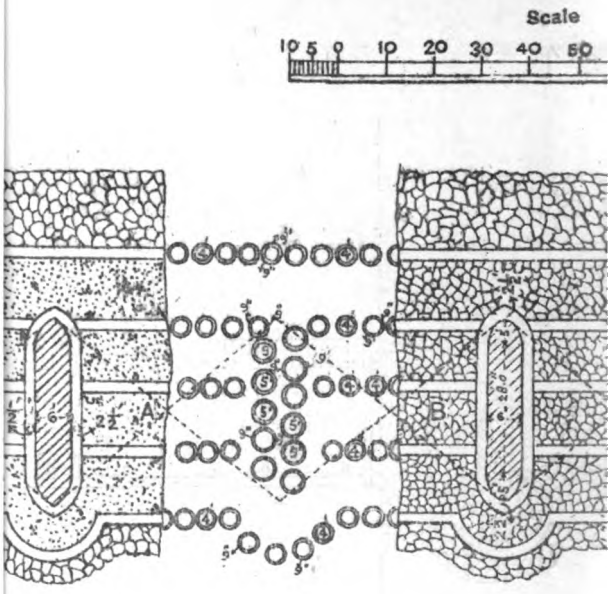
CENTRAL

GUNNARAM AQ

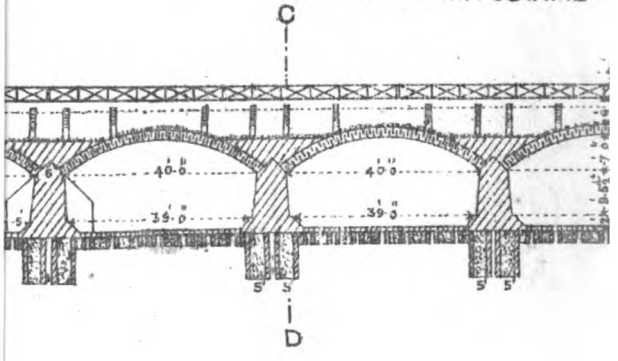
AS ORIGINALLY

(FROM PLAN WITH BAIRD S

IN THE MADRAS PRO



PART LONGITUDINAL



N A. B.

UCTURE & ALONG

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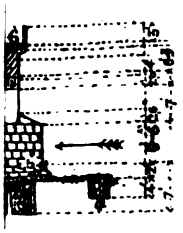

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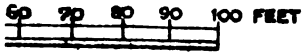
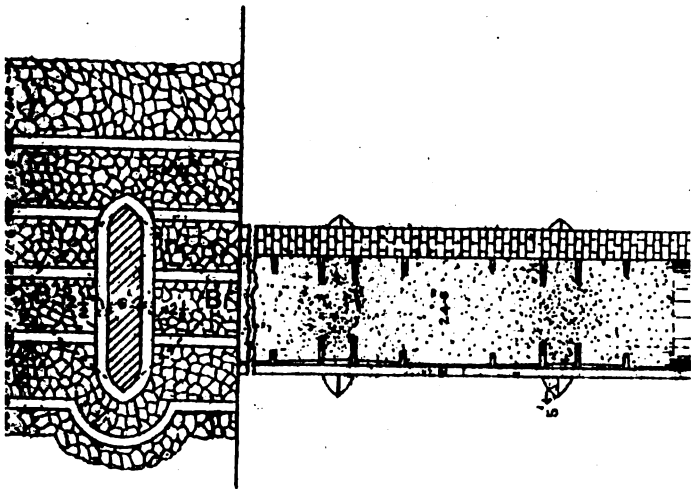
DELTA.

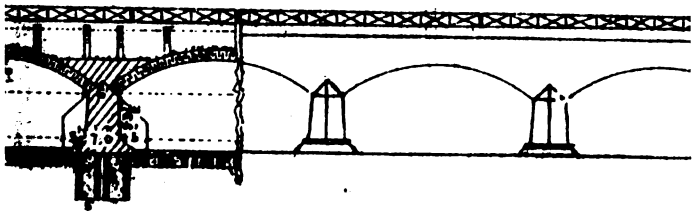
)UEDUCT.
BUILT.
MITH'S "IRRIGATION
VINCES." 1856)



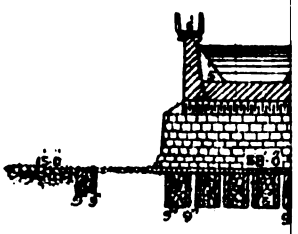


SECTION.

PART ELEVATION.



SECTION
WITH PIER IN



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STOR, LENOX AND
TILDEN FOUNDATIONS.

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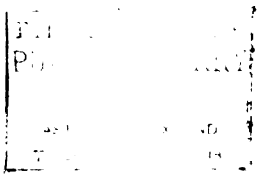

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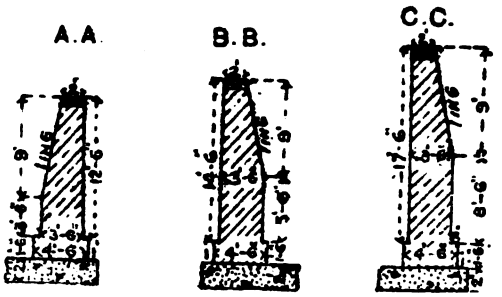

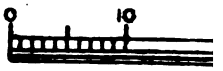

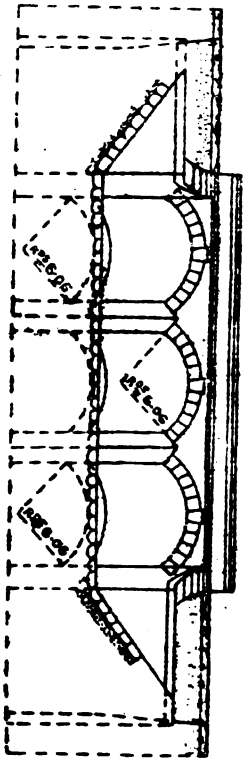

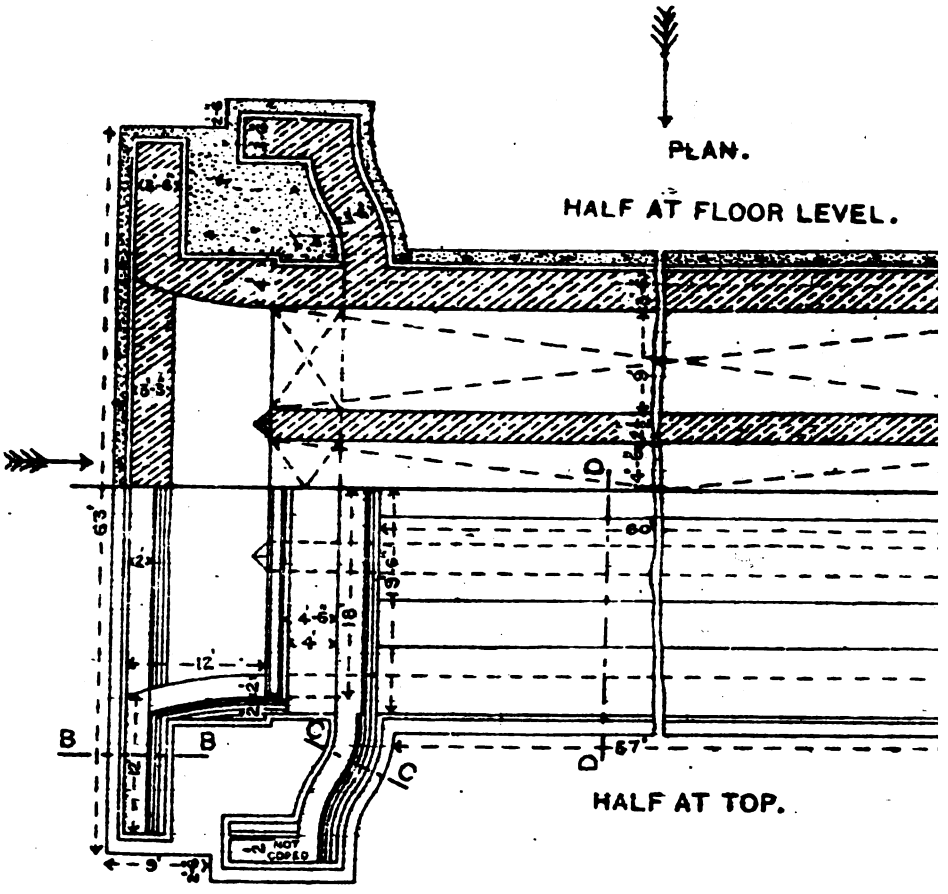

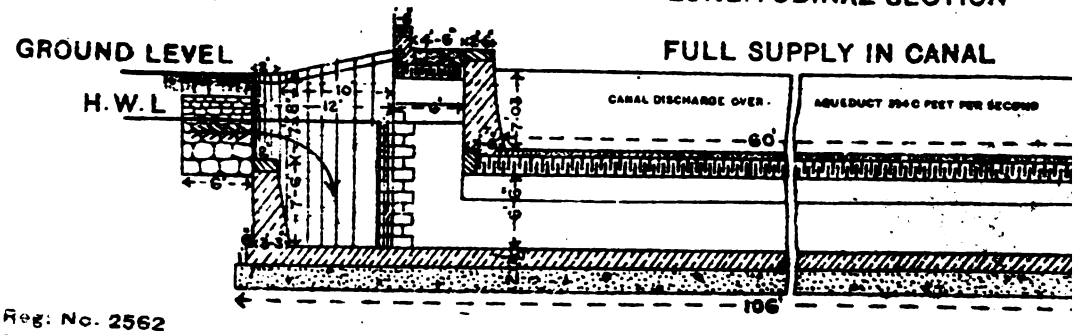

Reg: No. 2562
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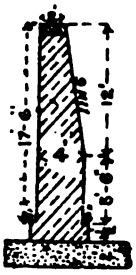
...ILE ELLORE CANAL.

...RN DELTA.

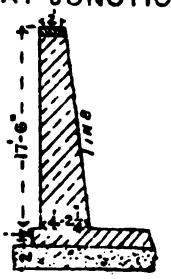
SCALE

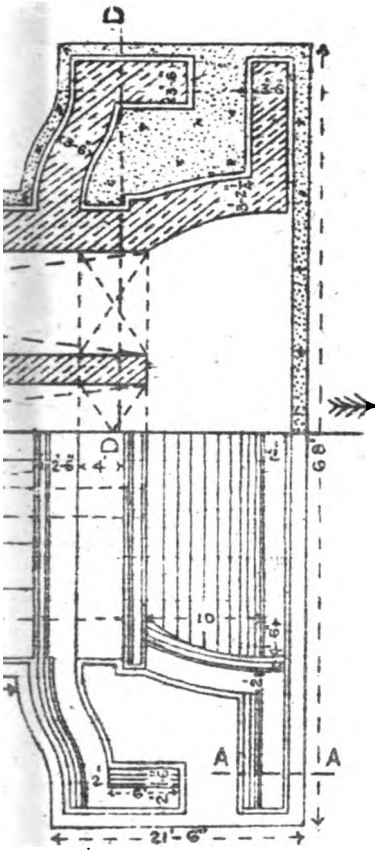
20 30 40 feet

SECTION OF FRONT WING AT JUNCTION WITH FACE.

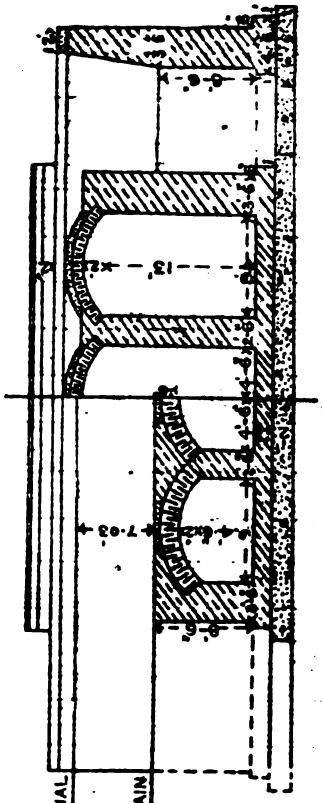


SECTION OF REAR WING AT JUNCTION WITH FACE.

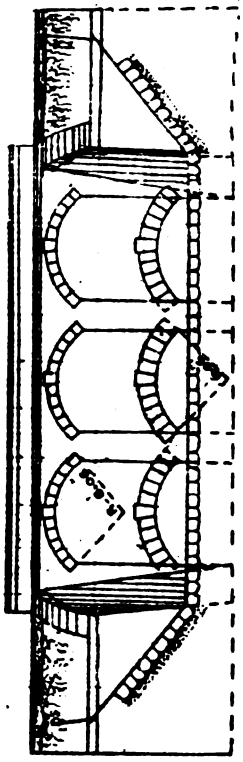


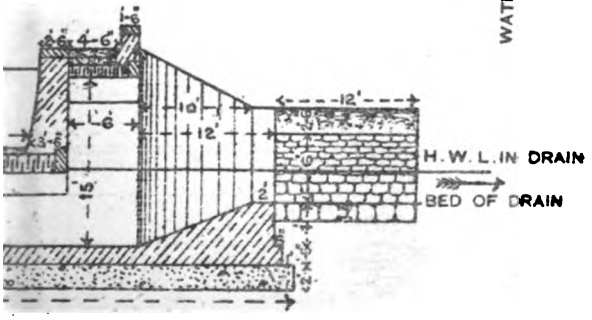


SECTION THRO D.D.



REAR ELEVATION.





REFERENCE.

- Concrete
- Rubble in Mortar
- Cut Stone
- Arch work (Brick in Mortar)
- Rough Stone

Photo-Zinco., Survey Office, Madras.

1896

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ASTOR, LENOX AND
TILDEN FOUNDATIONS.

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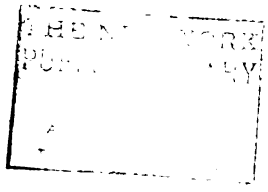

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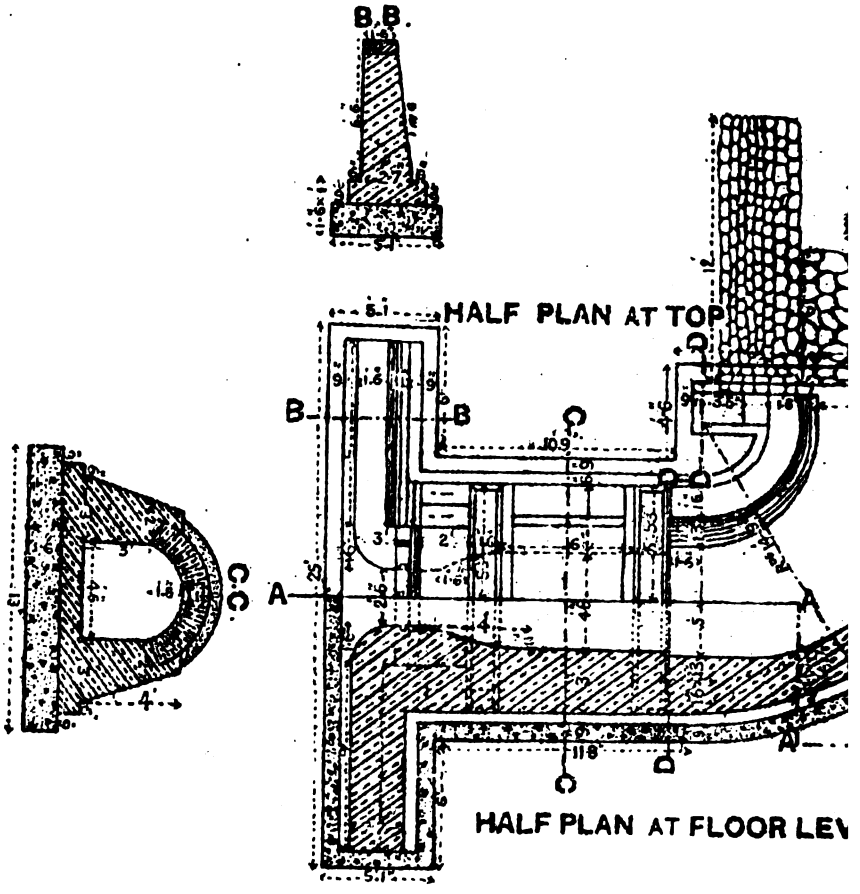
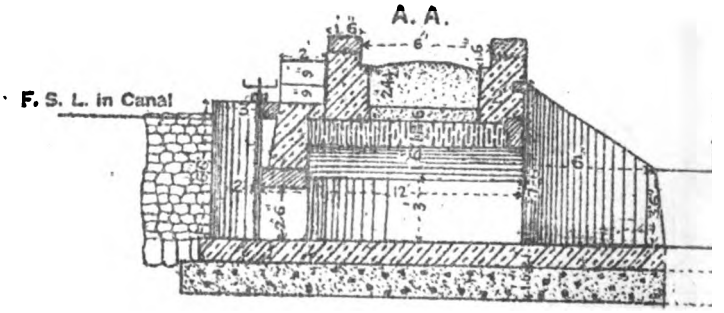
HEAD SLUICE
SIDDHANTAM PARALLEL IRRIGATION C
WESTERN DELTA.

Scale





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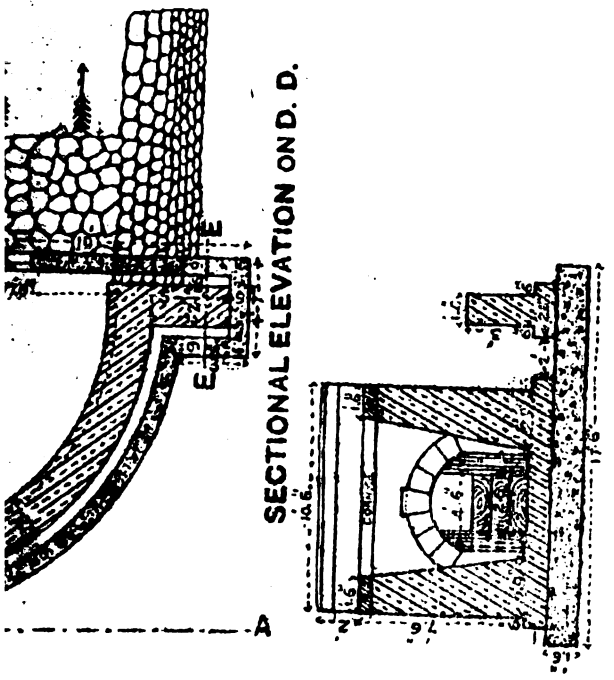
HANNEL.

REFERENCE.

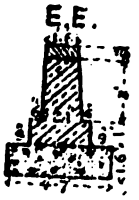
- Concrete
- Rubble in Mortar
- Cut Stone
- Arch work (Brick in Mortar)
- Rough Stone
- Wood

30 Feet



SECTIONAL ELEVATION ON D. D.

EL.



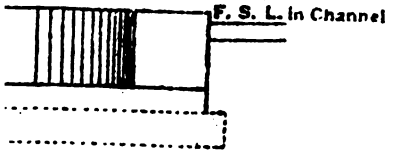


PHOTO-ZINCO., SURVEY OFFICE MADRAS
1896

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LENOX AND
FOUNDATIONS.

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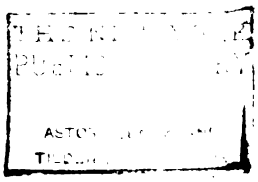

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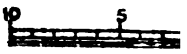
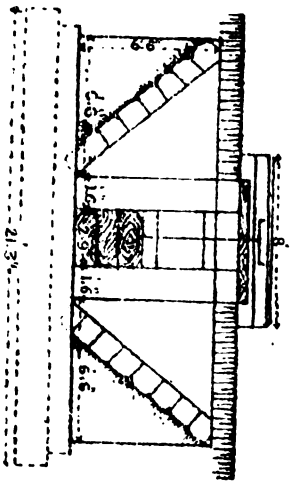
HEA

UNDRAJAVARAM

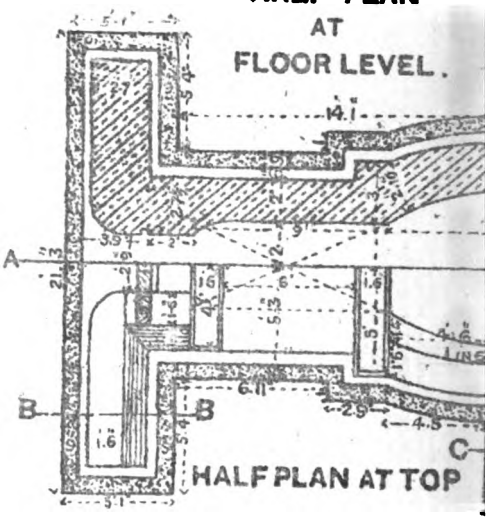
WEST



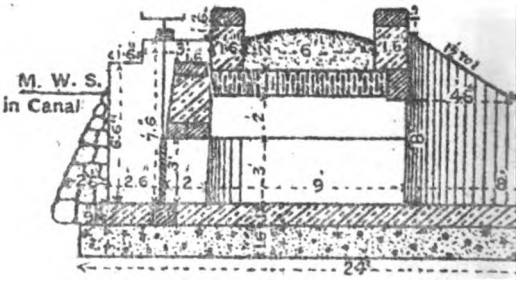


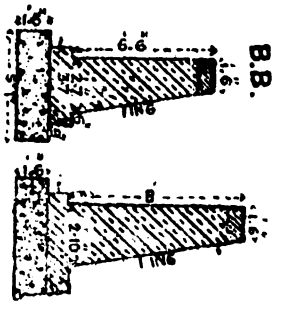
FRONT ELEVATION.

HALF PLAN
AT
FLOOR LEVEL.



LONGITUDINAL SECTION A. A





SECTION OF REAR WINGS
AT JUNCTION WITH FACE.

REG No. 2269

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) SLUICE.

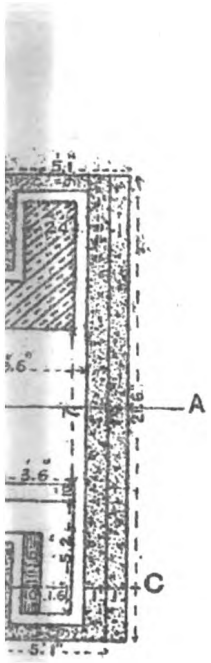
RRIGATION CHANNEL.

'ERN DELTA.

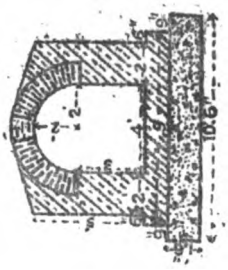
Scale
0 5 10 Feet

REFERENCE.

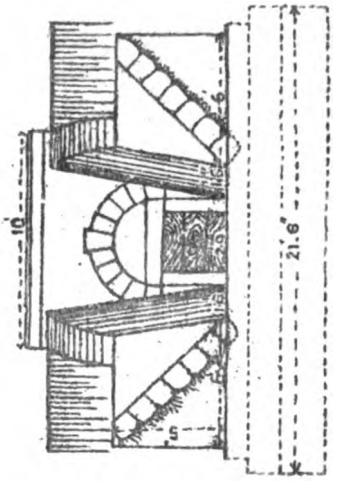
- Concrete
- Rubble in Mortar
- Cut Stone
- Arch work(Brick in Mortar)
- Rough Stone
- Wood



CROSS SECTION.



REAR ELEVATION.



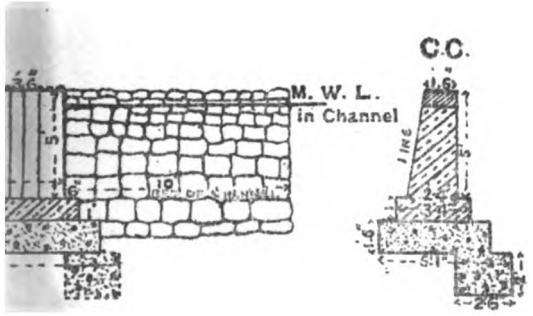


PHOTO-ZINCO., SURVEY OFFICE, MADRAS.
1896

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LENOX AND
FOUNDATIONS.

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ASTOR
TILDEN

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REFERENCE.

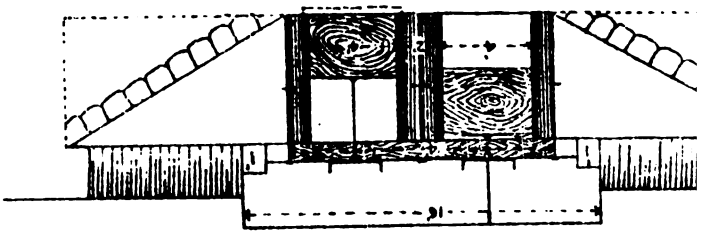
Concrete

Rubble in Mortar

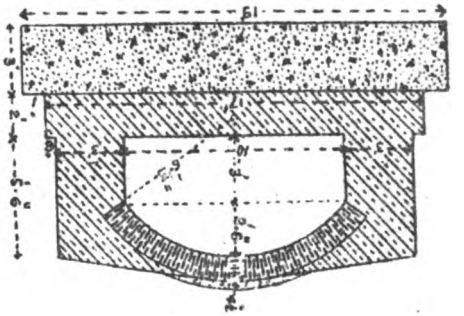
Brick in Chunam (Arch work)

Cut Stone

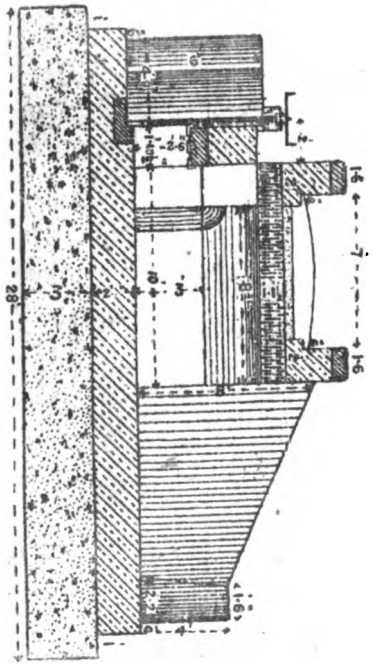
Wood



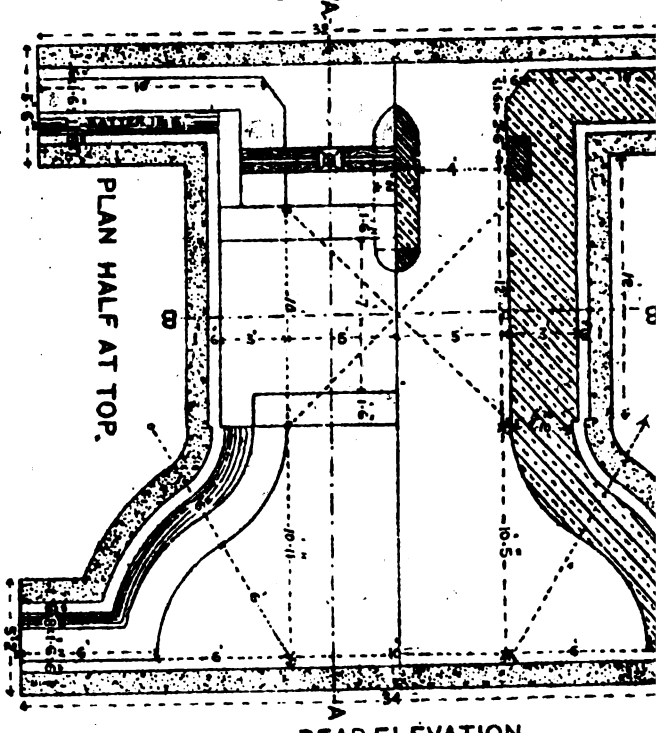
FRONT ELEVATION.



SECTION THRO B.B.

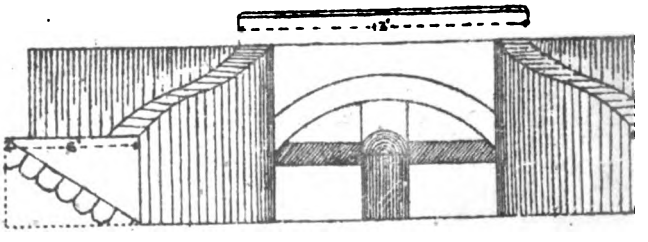


LONGITUDINAL SECTION ON A.A.



PLAN HALF AT TOP.

REAR ELEVATION.



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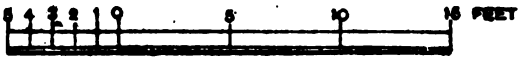
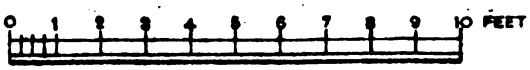
HEAD SLUICE
RALINGHI IRRIGATION CHANNEL.
WESTERN DELTA.

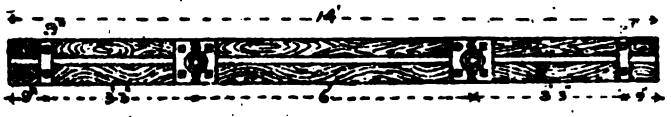
SCALES

FOR MASONRY



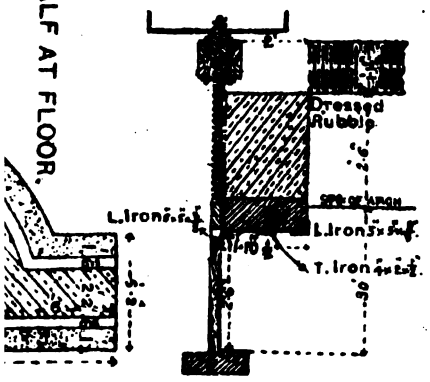
FOR DETAILS OF SHUTTERS & GEARING

SHUTTERS & LIFTING GEAR.

PLAN AT TOP.

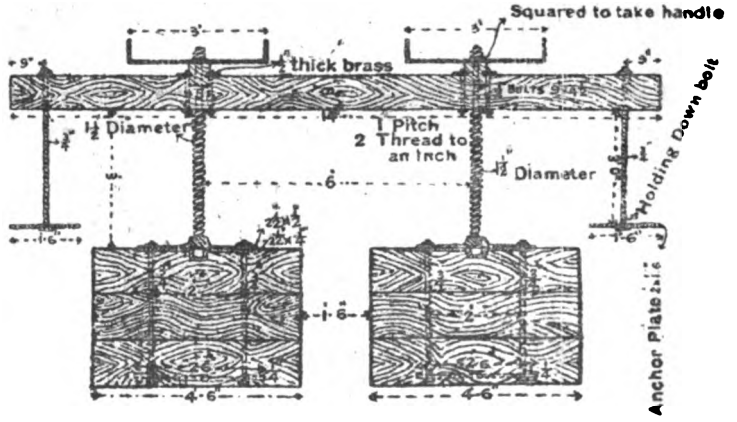


PLAN HALF AT FLOOR.

SECTION THRO: SHUTTER & SHUTTER PLATFORM.



ELEVATION.



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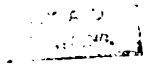

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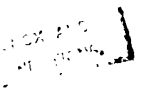

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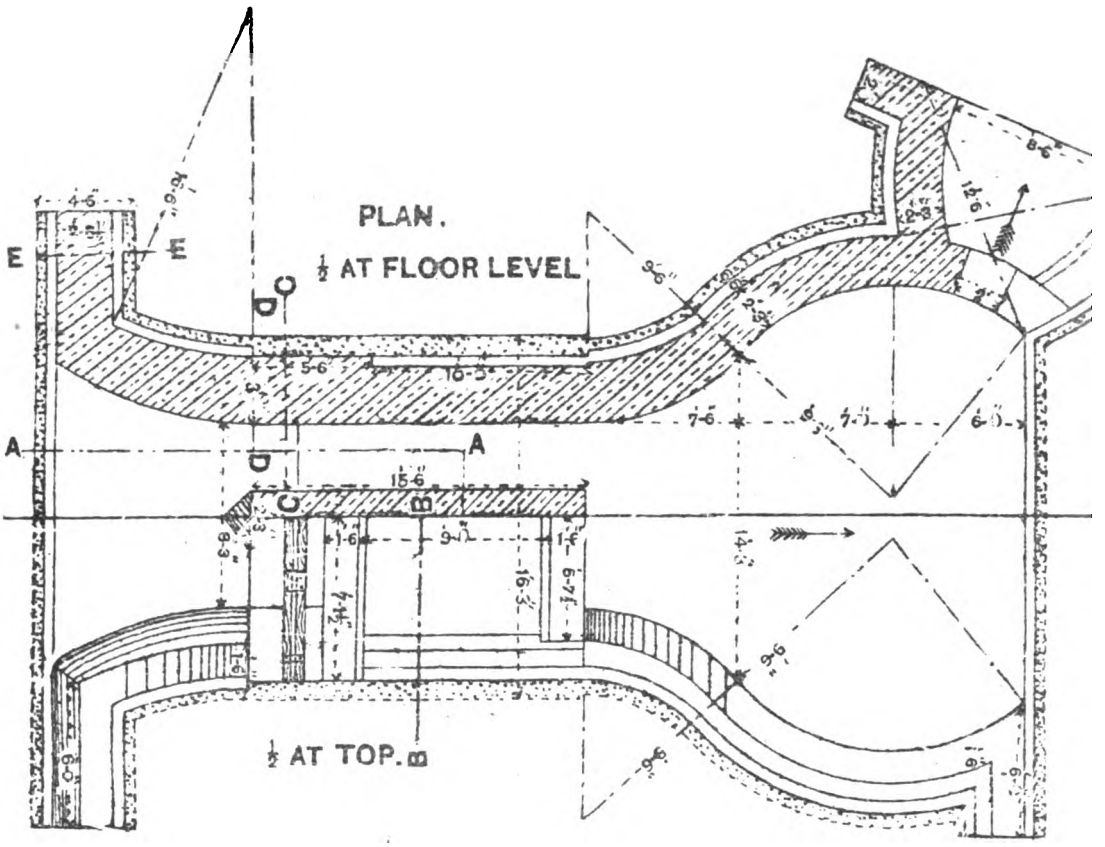
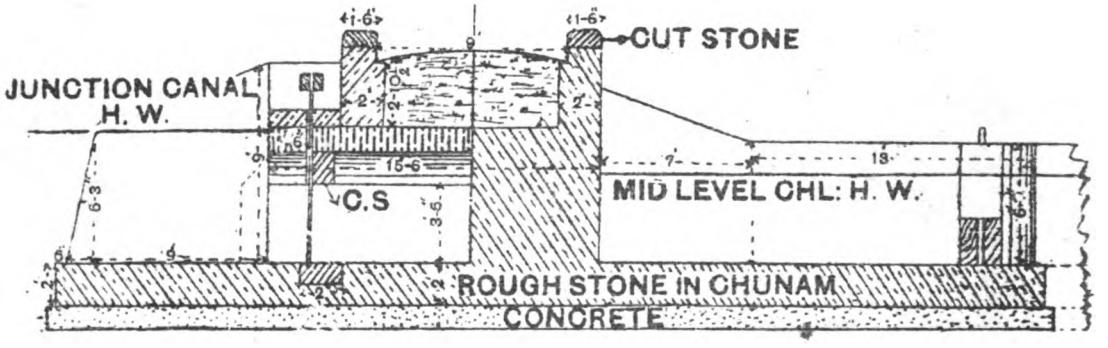
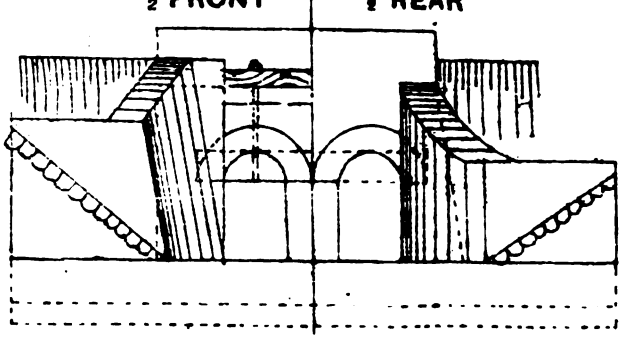


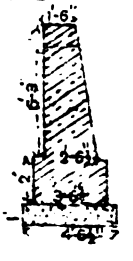
SECTION ON A. A.



ELEVATION



SECTION ON E



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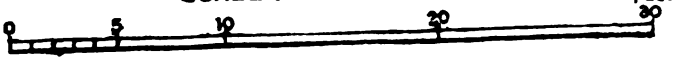
HEAD SLUICE

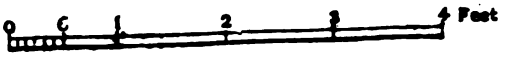
MID LEVEL IRRIGATION CHANNEL.

WESTERN DELTA.

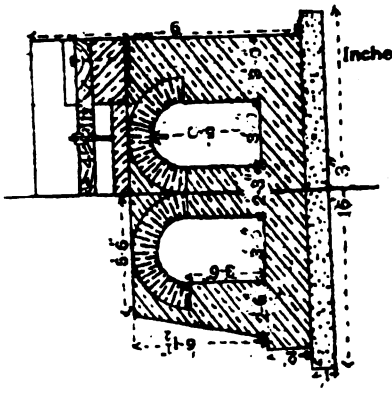
SCALE FOR MASONRY



SCALE FOR DETAILS OF SHUTTERS

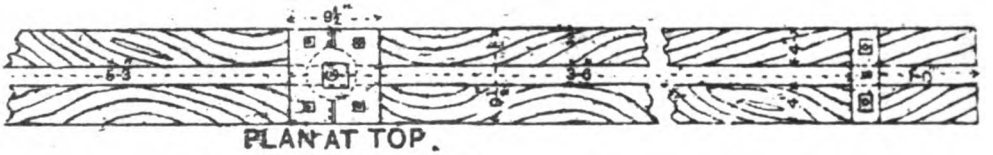


SECTION ON B. B. C. C.

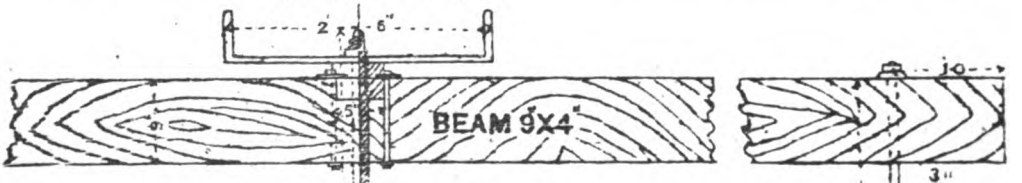


A

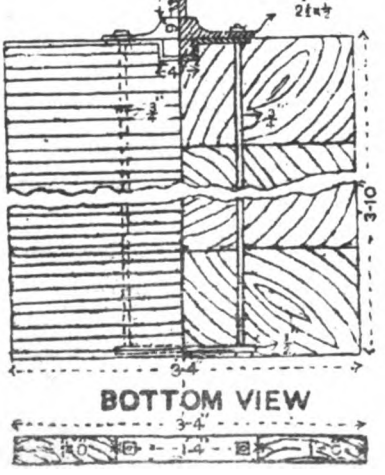
DETAILS OF SHUTTERS



PLAN AT TOP.

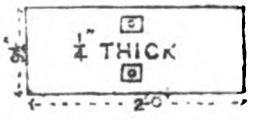


½ ELEVATION. ½ SECTION



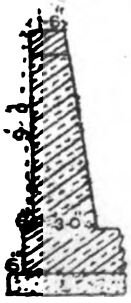
SECTION THRO. SHUTTER

ANCHOR PLATE



SECTION ON D. D.

E. E.



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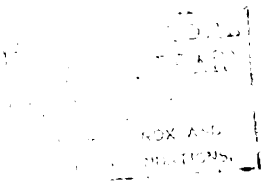

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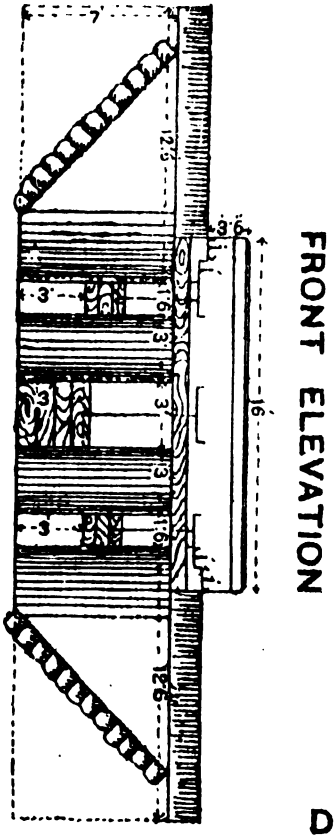
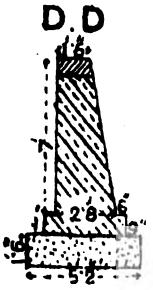
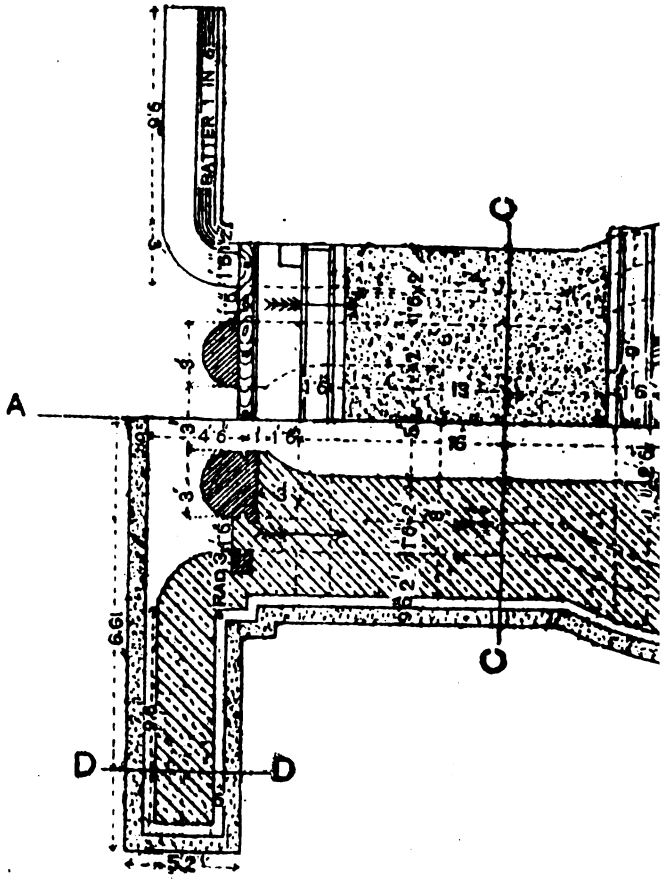
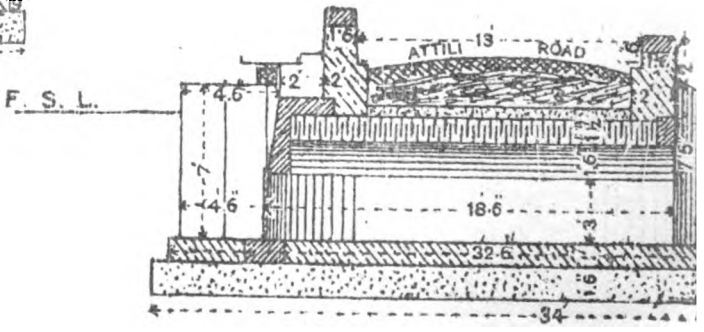


FRONT ELEVATION





SECTION ON A.A.



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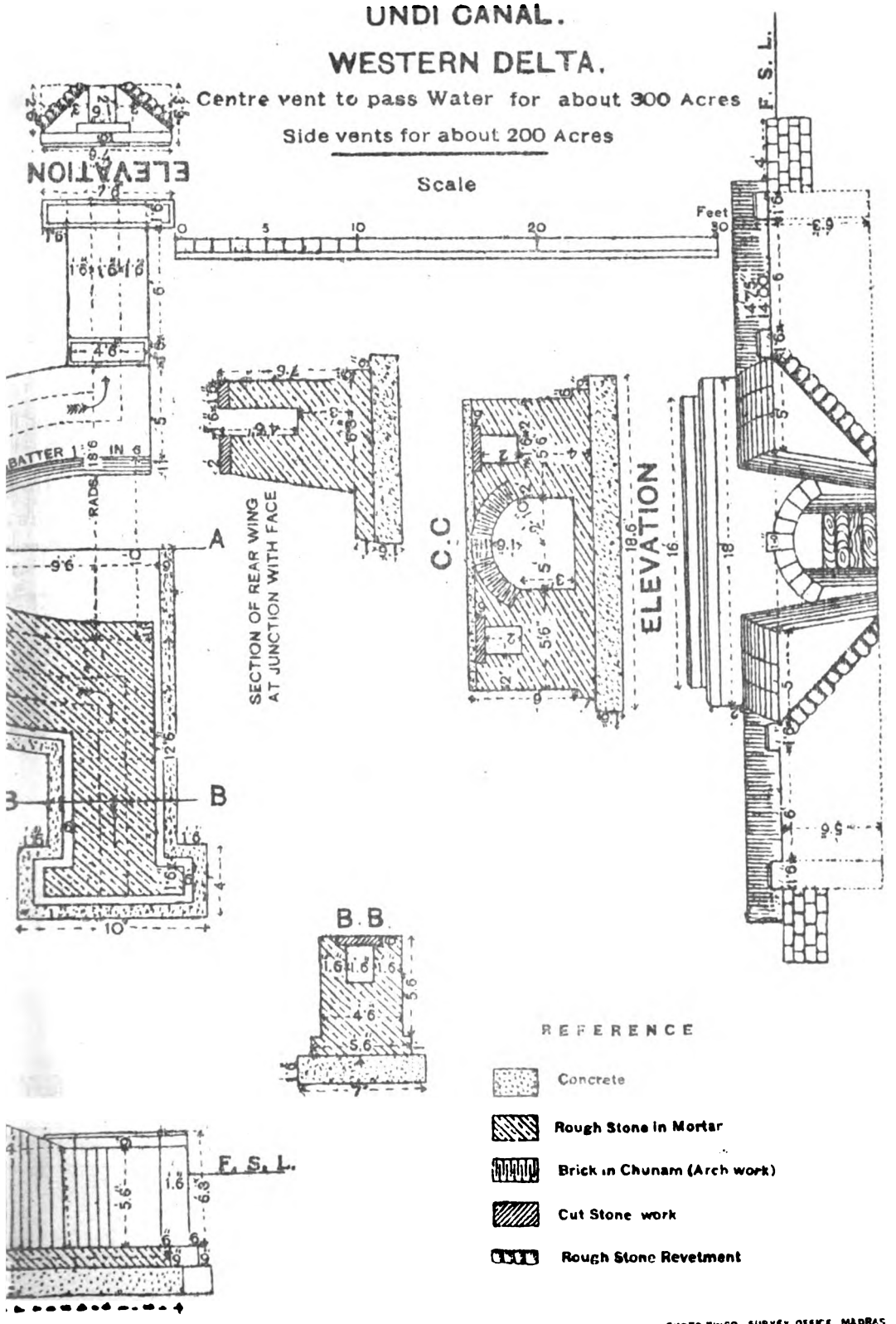
HEAD SLUICE TO KOMMARA CHANNEL.

UNDI CANAL.

WESTERN DELTA.

Centre vent to pass Water for about 300 Acres

Side vents for about 200 Acres



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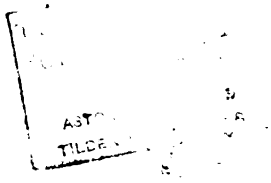

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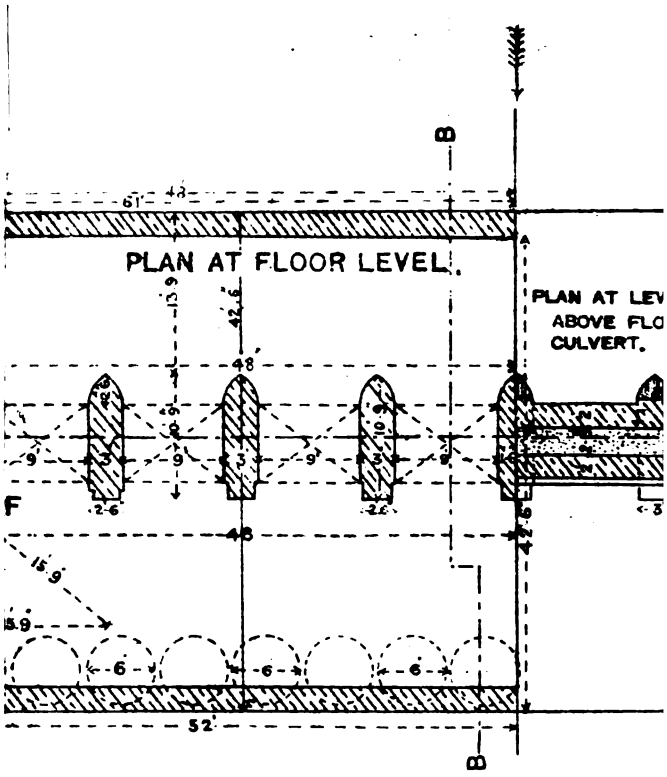
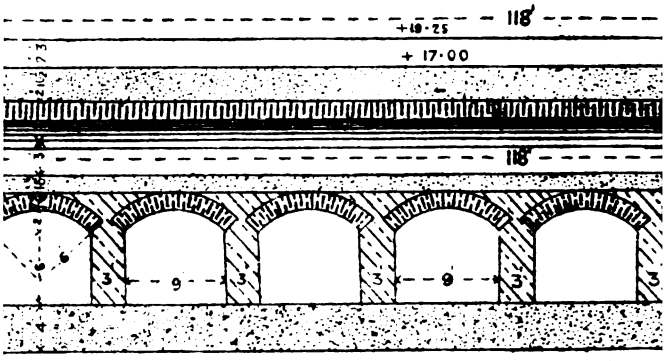
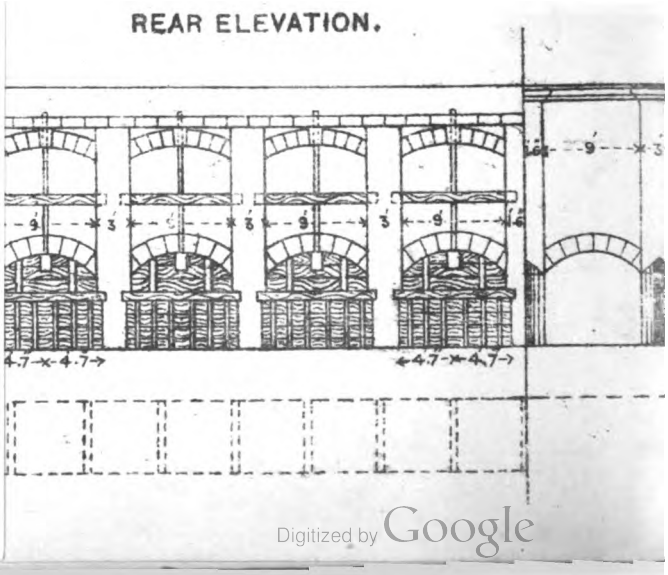


SECTION THRO: A. A

IG CULVERT TO CARRY VADDI LANKA IRRIGAT





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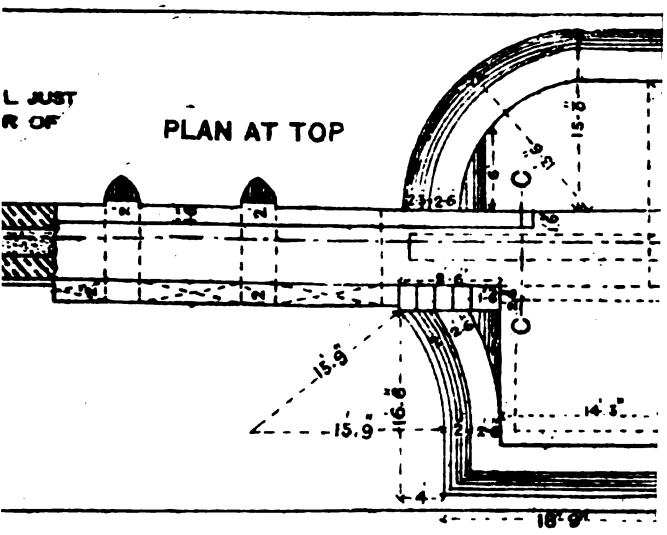
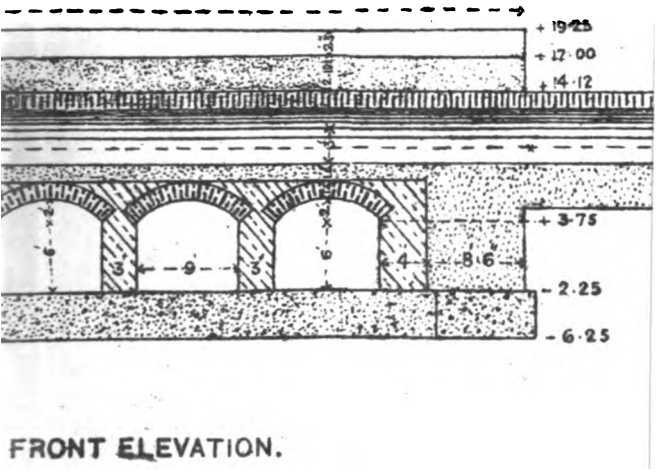
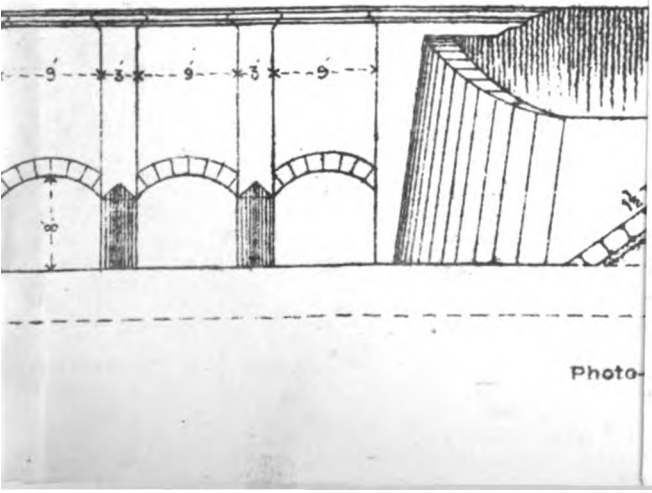


ON CHANNEL OVER THE NAKKALA.



FRONT ELEVATION.



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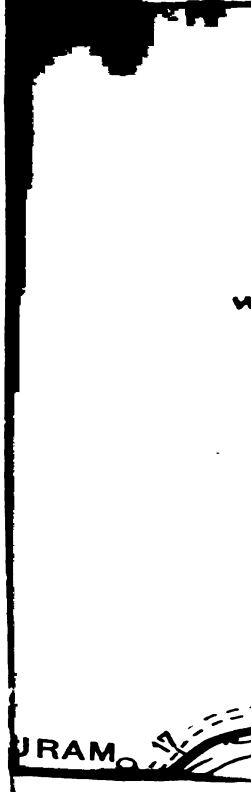

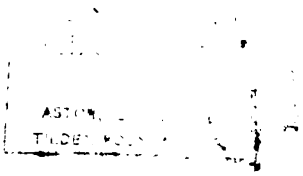

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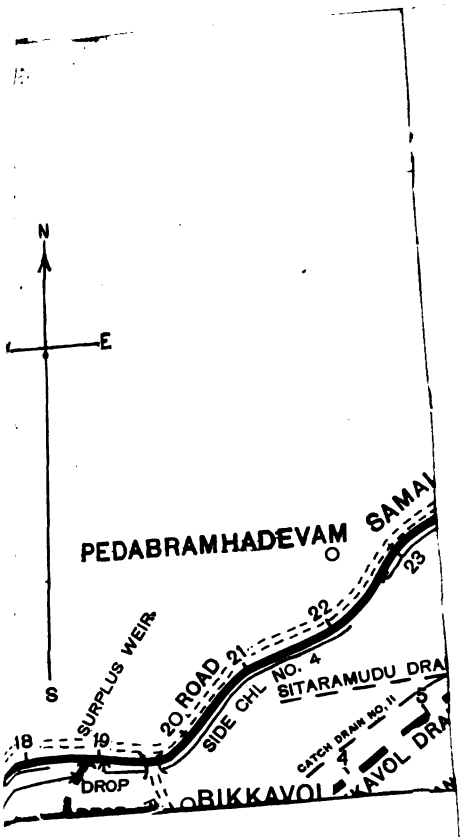
N
E
S
PEDABRAMHADEVAM
23
22
21
20 ROAD
SURPLUS WEIR
SIDE CHL NO. 4
SITARAMUDU DRA
CATCH DRAIN NO. II
18
19
DROP
BIKKAVOL
KAVOL DRA

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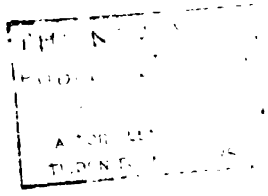

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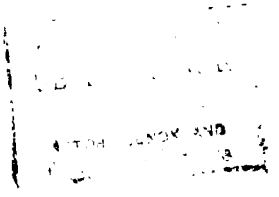

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